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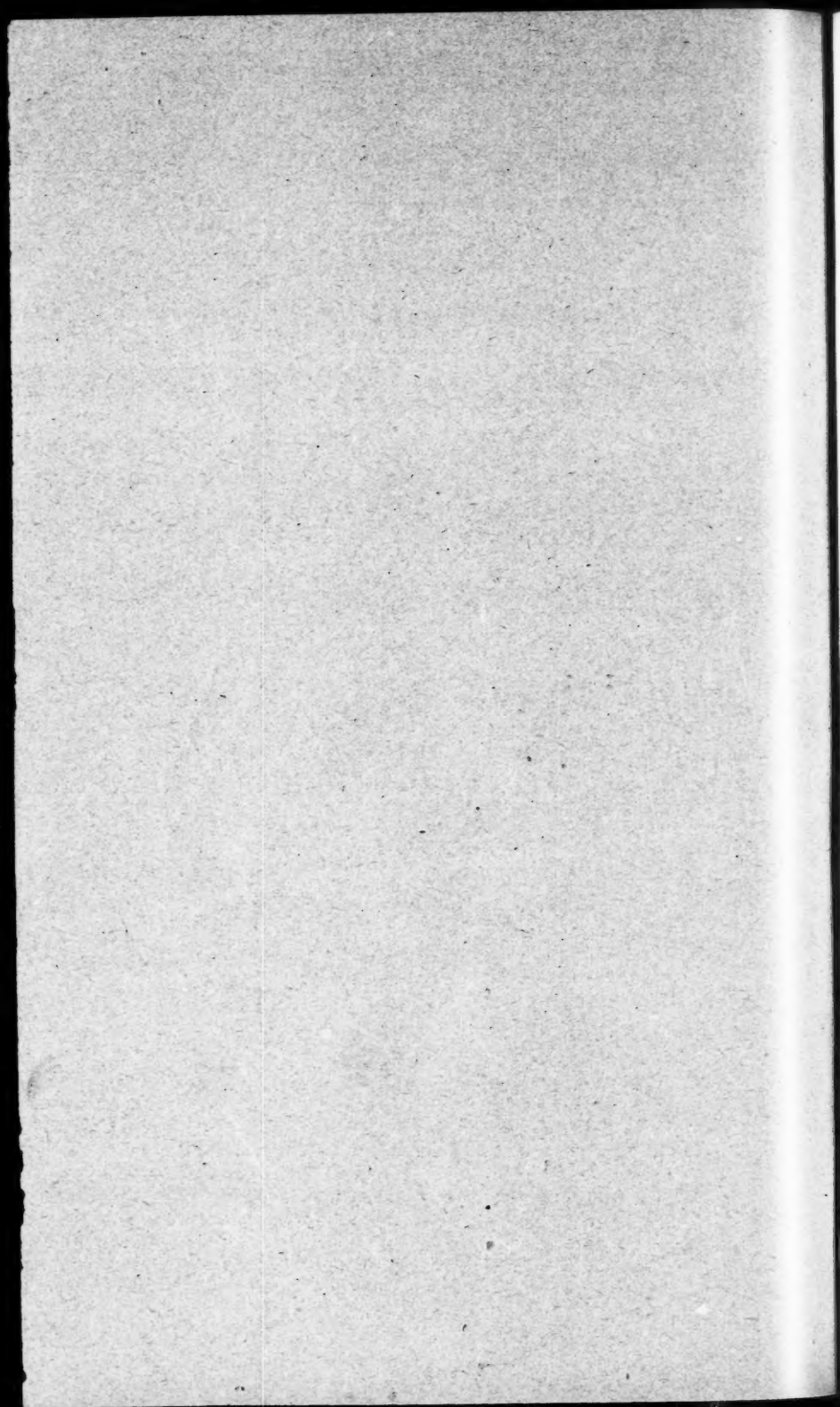
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OBJECTIVE UNCERTAINTY AND HUMAN FAITH.*

WHEN those whose lives are devoted to a more or less successful courtship of Philosophy come together for the purpose of mutually correcting one another's errors, sharing one another's insights, and kindling one another's enthusiasms, the satisfaction they feel in these activities and enjoyments is not infrequently marred by the intrusion of a disturbing reflection. Their attention is often called to the fact that the subjects chosen for discussion at these gatherings are for the most part such as to seem quite inaccessible to the majority of men, and the terminology in use such as to be intelligible only to those who have undergone a long process of initiation. The great public can take little interest in our proceedings, except in so far as the strangeness of our jargon furnishes substance for its laughter.

An ambitious philosophy, one conscious of a mission with respect to the world at large, addressing itself not only to initiates, but also to the plain man, the man unadorned with the trappings of an academic reflection, must necessarily view this situation in a mood of protest. There is indeed a more modest form of philosophy, for which the circumstance cited has another significance. This philosophy is content to satisfy a need in the individual thinker, a need which he shares with relatively few of his fellow-men, however deepseated the need may be in him. It sees in the prosecution of philosophical inquiries an attempt to realize a genuine but relative good, relative not only in the economy of human society at large, but also in the life of the thinker himself. The more ambitious philosophy has another consciousness of its significance. It claims universal and decisive importance, and is not content with assignment to a limited sphere in the lives of a limited few.

A philosophy of this kind faces a difficult dilemma. If the plain man is saved by philosophy, he must either be saved by one

* President's address, Western Division of the American Philosophical Association, University of Chicago, December 27-30, 1927.

that he understands, or by one that he does not understand. In the latter case his thinking has to be done for him on the principle of vicariousness. The philosopher becomes an authority, and the rest of mankind are asked to believe in him; in this faith they are saved. This is hard for modernists, seeing that we have such good modern authority for the dogma that the day of authority is past. In any case, the imagined situation is not one in which any genuine thinker is likely to feel comfortable. It doubtless makes him happy to share his insights; but it could scarcely occur to him, *qua* thinker, to ask for faith in himself or his results. The attitude of requiring faith is foreign to the atmosphere in which the thinker works, and quite irrelevant to his function in society. The thinker represents reflection; and authority and reflection are discrete and incommensurable factors in human life.

The more ambitious philosophy has therefore no other recourse than to formulate its processes and results so as to make them seem capable of a universal communicability. In its maximum of communicability philosophy attains the dignity of news, and its secrets are made commensurable for headlines. It is necessary on this view that all men become philosophers, since to be excluded from philosophy is to be excluded from salvation. Philosophy is often said to be the means through which the individual may realize an inner harmony of knowledge, passions and will, a moving equilibrium of all his powers. If this be true, then it seems imperative that philosophy should not remain alien to any one who is human enough to have this human problem set him as his chief task in life. For who would willingly entertain the view that what is essential to the good life should be inaccessible to the mass of men? Complacently to accept such a view—is it not to make oneself inhuman? And to seek with all the energy of one's heart and mind to find another explanation of life—is this not in so far to prove oneself possessed of humanity in thought and feeling?

I do not know whether the world is destined sometime to see the dawn of a day in which all men will stand revealed as philosophers, as Christianity teaches that all men ought to be priests. The years I have spent in attempting to make philosophy intelligible to college students have not made me over-sanguine of such

hopes. Not that my enthusiasm as a teacher has been chilled, quite the contrary; but I have been forced many times to acknowledge that there seem to be human beings so constituted by nature that philosophy is not essential to their peace. I am free to admit that the more primitively original expressions of thought in philosophers of the highest rank have a universality of appeal which the more trivial renderings at second hand, the translations and commentaries of pedagogues and other middlemen, fail to achieve. But in spite of all that may truthfully be urged in this direction, it still seems safe to admit that a talent for philosophy is a differential talent, and that the service of philosophy is an aristocratic privilege. It shares with all such privileges the obligation of paying its debt to humanity by understanding itself in a spirit of reconciliation with the common life, accepting its own perfection as something less and other than the perfection of human life itself. For the courtship of philosophy is not likely to be a hopeful enterprise unless it is predicated upon the possession of a somewhat rare and specialized talent, early opportunities in a favorable environment, a scholar's leisure, and an enthusiast's devotion.

The truth of this seems so obvious that I am afraid that I have convicted myself of banality in giving it expression, following the suggestions of a feeling that it might be suitable, on this holiday occasion, when the temptation to magnify our office lies so near at hand, to bring to your attention this reminder of its truth and possible significance. But if it is true, then philosophy has an interest in clarifying its relations with the common life, and it should be concerned to seek its own humanization along a pathway which is not impenetrable. In this view philosophy cannot be the absolute, nor man's point of contact with the absolute; it is a relativity among other relativities, although no thoughtful man could possibly assign it a place among the meanest. Like wealth and power, like beauty and fame, it is the possession of the few; the many are excluded from an intelligent appropriation of its values, not through any fault of their own, but by force of circumstance and nature's law. Philosophy satisfies a need which the individual feels in proportion as he is born a thinker; this need stirs the minds of most men only slightly and transiently. Not every man is fitted by nature to carry the burden of a philosopher's

reflection, and not every man is equipped to think the thoughts of a philosopher after him.

But though it may be erroneous to think of every man as potentially a philosopher, and futile to demand of him a realization of that which is not potentially present, it is surely right to think of every philosopher as potentially a man. There is a view of life which demands of him as of all men, that his deepest interest be focussed upon the realization of this potentiality. The Greek sceptic, professing a philosophy which sought a radical transformation of human nature, after a pattern believed to be more rational than the simply human pattern, frankly admitted that even a sceptical philosopher was also sometimes a man, though by an unfortunate and exceptional relapse. But the more modest species of philosophy in whose name I here diffidently and haltingly attempt to speak, will urge this fact with boldness and confidence, and embrace it with enthusiasm, seeking to become increasingly conscious of the claims of that which is universally human. The professor of such a philosophy will seek to remind himself of his equality at all times, but especially when he is most happily engrossed in his inequality. He will guard against the temptation to forget that he was a man before he became a philosopher, and that he will perhaps remain a man after philosophy has ceased to have any significance for him. It will be his problem, not chiefly to popularize the expression of his philosophical results, but rather to humanize himself. A philosophy popular in form is not necessarily a human philosophy. It is not ordinarily popular to mean a great deal by what one says, even if the saying is couched in the simplest of terminologies. I have never been able to understand how it can give a thinker satisfaction to see the delicate ramifications of his thought obscured, its meaning distorted, and its profundity trivialized, in order to gain for it a currency of doubtful import. But on the other hand, if he believes that the essential equality of men is more than an orator's phrase, and that a brotherhood is possible in which this essential equality reveals itself, then he will not be able to find his deepest self or his essential happiness in the realization of purely intellectual values. He will instead seek to permeate his philosophical pursuits with a consciousness which robs his differential perfection of its arrogance, its power

to humiliate the excluded. He will strive to incorporate his reflection in a dedication which all can understand; for it is not in talent, but in its inward dedication, and it is not in scope and quantity of activity, but in its quality and intensity that the human unity may be found which every man is called upon to express.

Here I am confronted with my topic. For if superiority in the scope and accuracy and synoptic unity and transparent perspicuity of his knowledge and reflection is what marks the thinker, and separates him from his fellowmen, what can be more obvious than that the consciousness of his limitations and his ignorance is a bond which again unites him with them? Doubtless there are better ways in which one may seek an approach to the democratic idea. But it has seemed to me not incongruous with the present occasion to explore certain considerations of logic and metaphysics, in order to seek in these disciplines a reflection of its reality. Uncertainty, insecurity, risk, are characters which qualify human existence essentially, and rank as constituting factors in its metaphysical structure—this is the theme which I have taken as my point of departure. The further task which I have set for myself is the description of what seems to me the ground of such uncertainty in the structure of consciousness; and finally, an estimate of the significance of this fact in shaping the fundamental human attitudes.

I

Wherever there is life there is uncertainty. Uncertainty confronts those who command all the resources of science, as well as those whose lives are overshadowed by the darkest ignorance. No very searching reflection is needed to reveal this fact. The obvious possibility of death at any moment renders literally everything insecure in its relation to the individual human being. To enforce and illustrate this point I need only remind myself in your presence that it is uncertain whether I shall live to finish the reading of this address. Knowledge mitigates insecurity without abolishing it, and the wisest possible use of the most reliable knowledge conceivable involves the taking of risks. Obvious as this truth is to an objective and detached contemplation, it is often exceedingly difficult to preserve amidst the pressing business of life. Success stills the whisper which would remind us of it. For

it is human to forget that our success has an aspect which makes it as fundamentally a gift as an achievement, and that the possibilities which talent, knowledge, will and industry create, do not become actualities as a matter of course, or of sheer necessity.

Existence discloses its precariousness in a twofold manner. It confronts us as we face the future, and propose to utilize knowledge for the realization of some human end. The certainty or uncertainty of the knowledge we use, has no essential bearing upon the uncertainty inherent in its application. The principles of logic and the formulas of mathematics are no more capable of guaranteeing infallibility in the application than the hypotheses of the most empirical branch of science. But the body of knowledge is itself also permeated by uncertainty, so that the highest attainable truth is an approximation, whose progressive verifications always remain within the bounds of a continual approach to certain proof.

Knowledge is universal, but its successful application in a particular situation (and all action is particular) depends upon individual conditions necessarily external to knowledge in its aspect of universality. It is self-contradictory to assume a theory which mediates between theory and practise, and there is no knowledge so concrete that it could make the use of knowledge as secure as the knowledge itself is sound. In their relation to life the axioms become hypotheses, and all knowledge becomes a system of possibilities. The greater the scope of a man's knowledge, the greater the number of possibilities among which he may and must make his choice for action. There are multiple hypotheses within the sphere of science, since the facts known at any given time are capable of being explained in different ways. But even if these were all eliminated, the fact that no human consciousness is able exhaustively to penetrate any situation in all its concreteness, would necessarily prevent such unified science from becoming univocal in its application. No increase in the precision and scope of our knowledge, no intensification of our powers of reflection can rob the future of its alternative possibilities. Rather does every increase in the effectiveness of our intellectual instrumentalities multiply the confronting alternatives; so that the more one knows the more difficult it is to reach a conclusion or a decision. Hence it is that when knowledge is not controlled, and reflection

is permitted to run wild in its own infinite ramifications, it tends to paralyze action or indefinitely postpone it, instead of affording it guidance; thus it fails of realizing the end which constitutes the ultimate reason for its existence. In this way among others we may verify the proverb that increase of knowledge means increase of sorrow. Reflection and cognition may become an armor so heavy that it impedes and endangers the individual, instead of protecting him.

If taken without qualification, the customary characterization of reflection as the problem-solving activity of the human spirit, is likely to be misleading. Reflection is no doubt a factor in the solution of such practical and vital problems as confront the individual, but alone and unaided it is quite powerless to solve any human problem, except such as are already solved, in a certain sense, before reflection upon them begins. When we find ourselves assuming that cognition or reflection determines us univocally to a line of action, it is because we fail to bring our chief underlying presuppositions to consciousness. Or we are perhaps dominated by a predilection for some special possibility, hopeful or despairing; and this excludes from our consciousness alternatives equally possible. The depth of prejudice, the sluggishness of imagination, and the limitations of our intellectual horizon are the chief factors that support an undue exaltation of intellect in the economy of life. The uncertainty that confronts ignorance is simple and undisguised, having no wealth of words in which to express itself. The uncertainty that confronts knowledge is none the less real because it is complicated and seductive, capable of taking on the false appearance of certainty, and eloquent in many tongues. From an absolute point of view the relative difference between more or less of knowledge thus becomes non-essential, since it does not alter essentially the basic conditions of life; it is no sufficient ground either for exaltation or depression, either for pride or envy.

An enthusiasm for the enterprise of knowledge is not incompatible with a consciousness of its limitations. To this the Greeks bear witness, and one in particular, whose matchless energy of reflection began and ended in ignorance. Everyone knows that Socrates identified that wisdom which is specifically human with

a consciousness of one's own ignorance, and that it was thus he sought to draw the boundaries between the human and the divine. The uncertainties which remain after knowledge and reflection have done their best for us, are our tutors and disciplinarians. They drive us back upon ourselves, and are capable of evoking forces within us more profound in their significance, more characteristic of our personalities and more decisive of their destiny, than any particular degree of adequacy or inadequacy in our knowledge. Human faith, elicited by the demands of our existence on many different levels and in many different forms, has its disappointments and its vagaries, its trials and its discipline. But it is the deepest constructive force of human nature, for without faith the personality cannot express or constitute itself. I believe, therefore I speak; I believe, therefore I act; and as I believe, with its consequences in speech and action, so I am.

I have assumed a distinction between the possession of knowledge and its application, between its existence and its use. The limitations of my theme do not permit me to argue the distinction, except to say that the assumption seems conformable to the language of daily life, and sometimes also to the language of those thinkers who seek to erase the distinction by defining knowledge as essentially identical with knowledge-in-use. For they sometimes indulge in polemics against theories of the nature of knowledge which would lead, in their opinion, to its misuse or disuse. But an instrument that can be misused or disused necessarily has an existence of its own, distinguishable from the realization of its ideal function. An axe does not become non-existent when it rests from felling trees, nor does a road cease to be a road when it is perverted to the uses of a highwayman. The old controversy over the existence of useless knowledge could never be settled, because nobody knows enough to decide whether a given item of apparently useless information may not really be useful; and in any case the question was not really relevant to the point of principle it was intended to decide. But everybody knows that there is such a thing as unused knowledge, and this seems to me decisive of the epistemological issue referred to.

Assuming the validity of this distinction, I proceed to ask whether within the sphere of knowledge itself, as apart from its

use, there exists a reflection, a secondary expression, of the fundamental uncertainty of life. Logical and mathematical problems appear to be soluble through the attainment of clarity of thought alone, and it seems as if I do not need to err in these fields provided I thoroughly understand my meanings. My objects have ideal being only, and ideal existence needs no other verification than that which consists in being clearly conceived. But even intellectual clarity is not entirely free from illusion; the troublesome duality between appearance and reality obtains here also, and what seems to be a self-evidencing insight may later reveal itself as a confusion of thought. The absence of a reference to factual existence in its particularity and concreteness absolves such knowledge from one species of verification only, the verification peculiarly characteristic of the natural and the historial sciences. But the need of that species of verification which consists in a possibility of the repetition of the insight, and of its communicability to other minds, still remains. And this species of verification, like the other, is never final; at its best it passes at once into a memory, which like every other form of memory stands in need of verification on its own account.

That the concrete sciences do not claim absolute finality for any of their results, it is here needless to elucidate. The historical material upon which such sciences are based, and to which they again refer, is infinite; no observation or reflection can exhaustively penetrate it. Every conclusion results from an arbitrary stoppage of the inquiry, and is therefore as a matter of course subject to revision in the light of fuller knowledge. Every scientific truth is an approximation. The maximum of intellectual insight with respect to any scientific problem is to command the available evidence so as to understand its force; when this has been achieved, the genuine scientist or historian will scarcely feel the need of adding a subjective faith in the results at which he has arrived, a firm conviction that they cannot be overturned. A later age, with more evidence at its command, will possibly draw different conclusions; and if it is afflicted with as much folly as our own, will doubtless subject our science to ridicule from the lofty standpoint of its own infallibility. In scientific matters assurances and protestations are the mark of imperfect understanding, and the crown

of infallibility is most fitly worn by those who do not at first hand command the evidence that happens to be available, and who have not subjected themselves to the discipline which would enable them to estimate its force.

II

When we seek the ground of this situation in the structure of experience, we are confronted with a radical dualism. Human consciousness is a synthesis of two factors: the ideal and the real, the logical and the existential. The presence of this duality in the form of a synthesis makes certainty and uncertainty possible; their persistent incommensurability makes uncertainty an inescapable actuality. Time and space are separating principles, introducing fragmentariness and incompleteness into human experience. The idealities of consciousness serve in their own way to complete the incomplete, yielding the possibility of a sort of wholeness to life at each point of time and space; but only in an imperfect and limited manner. This fact remains as a mark of our finitude, and constitutes an effective obstacle to the attainment of that certainty which is tantamount to objective demonstration.

The duality of ideal and real is the logical foundation for both certainty and uncertainty. If consciousness consisted merely of reals there could be no question of either, seeing that there could in that case be no questions at all. Everything would merely be; but whether precariously or securely is an issue that could not be raised. For all issues are raised in terms of idealities that refer to realities. If consciousness on the other hand were merely a "bloodless ballet of categories," everything again would simply be, though in another sense of the term being. It is the varied forms of cross-reference between these two factors, and their distinctness in their synthesis, that gives rise to certainty and uncertainty. The duality of datum and meaning is a form of the duality of ideal and real. This distinction has been referred to the distinction between the certain and the precarious, with the effect of apparently softening or eliminating the dualism. What is taken as certain in any cognitive situation is in this view identified with datum, while what is recognized as precarious is said to constitute meaning. This explanation sets the cart before the horse, explaining meaning in terms which presuppose it, and resolving

our dualism at the expense of failing to analyze the concept of the precarious. Certain and precarious alike are matters of meaning, and both involve a relationship between ideality and reality.

What is true of these concepts, the immediate subject of this address, holds true also of a host of related categories. Truth and error, knowledge and its objective reference, language and symbolism, faith and doubt, intent and verification, refer in various ways to this primary distinction between ideal and real as the ground of their possibility. The attempt to elucidate such concepts on the basis of a monistic presupposition, idealistic or realistic, seems bound to fail. Or if it succeeds, it is only by surreptitiously introducing at the rear door some category which has just been ostentatiously dismissed at the front.

The irreducibility of ideal and real may seem to offer a challenge to the reason, just as every dualism appears to certain thinkers a rock of offence and a stone of stumbling. But this happens only when the reason, in its vaulting ambition, undertakes the responsibility for a creation of the world out of its own resources. When the reason thus tries to bring about a synthesis of discrete factors, it abolishes their discreteness, since it is not capable of an actual synthesis, but only of a logical unification. The explanation of particulars in terms of logically prior universals leaves their particularity intact; the explanation of relative dualities in terms of abstract unities does not abolish the dualities taken as a point of departure. Everything found is explained in terms of the found; and thus it is not explanation which is prior to finding, but ultimately finding which is prior to explanation. If therefore an irreducible dualism seems so obtrusively something found that it cries out for an explanation in the form of a reduction, we have first to ask whether an abstract principle of unification really can be found. The imperative impulse to explain away the dualisms of experience, either by reducing one member to the other, or both to a third, is a misunderstanding which arises from assuming that explanation creates the found instead of presupposing it. The actual synthesis of discrete factors in existence is *toto coelo* different from their logical unification, and is something the reason need not take upon its conscience; any more than it need assume the task of showing why anything exists, deduce the actual from the possible, or one quality from another.

The current explanations of language, symbols, ideas, and the like, often attempt to operate without recognizing any other order of being than the real or existential. The consequence is that a surreptitious or merely instinctive use of categories not avowedly recognized becomes a necessity, in order to preserve for the account a minimum of plausibility. Already the Greeks were compelled to face problems whose solution depended upon a clear recognition of the ideal-real distinction, or upon its prosaic and unsentimental clarification. I say prosaic and unsentimental, for it seems to me that it was the esthetic or ethico-esthetic enthusiasm of Plato which seduced him into the mazes of a lyrical mystification of what was otherwise a genuine logical discovery. One may well hold with Plato, and with Socrates before him, that without the recognition of ideal forms the concept of knowledge becomes impossible. And this without either subscribing to Plato's principle that science is only of the unchanging, or sympathizing with his metaphysical hypostatization of the forms. Science and opinion alike involve ideal entities *in* which to think; but it is only when reflection becomes epistemological that we also think *about* them. As instruments of knowledge they need to be capable of recapture in their absolute identity with themselves, under whatever change of circumstance in the knower or his object; if only in order that such change of circumstance may be subject to recognition. In so far they may be said to escape the temporal mutability that attaches to the real objects whose knowledge they mediate. One may also hold with Plato that false statements are reduced to meaningless sounds, and hence lose even their falsity, unless their meanings are constituted in a kind of existence which is also non-existence. This view is one which Plato supports by a doctrine of the mingling of the categories, in which existence and non-existence are denied the status of true contradictories. One may find it necessary to clarify this dictum by adding, what Plato was loath to concede, that it is precisely the being of his ideal forms which so merges with non-being that it becomes representative of non-existence. This kind of being is a necessary condition for fitness to serve as the logical content of predication whether true or false, whether referring to the changing or to the permanent.

In modern philosophy the concept of the *idea* has been emascula-

ted beyond the possibility of any use for knowledge, by its reduction to the status of a psychical real. When so regarded it becomes an object of which one may presumably become aware, but it is no longer an instrument for the apprehension of other objects. Knowledge then becomes awareness of ideas, not an apprehension of things. An idea is a synthesis of psychical reality and logical ideality. Its ideal and intentional character gives it its revealing function. Take this aspect away and thoughts become blind and windowless, obtruding their own immediate existence between ourselves and the world. In so far it is not surprising that many modern thinkers have adopted the desperate expedient of rejecting ideas altogether, though it seems to me more hopeful to revise our conceptions of them.

Language is in a similar situation. Extraordinary efforts have been expended upon the project of explaining language as some sort of a real relation between reals, a conjunction between words and things. The watchword of this theory is: *vox et res, et praeterea nihil*. It is assumed that the meaning of words is a matter of context, or of leading within a context. But context in any sense germane to this purpose is a consequence of the ideal intent attached to words, and hence presupposes what it is assumed to explain. In a purely realistic sense of the words 'context' or 'leading,' they do nothing to explain meaning; since an infinite mass of irrelevant material is included within the 'real' context, and the causal leading includes the logically relevant only by exception. Hobbes, in spite of his nominalistic terminology, had a much too adequate grasp of the nature of the logical to identify it with a real aspect of something real. In expounding the relation between the premises of a syllogism and its conclusion, he insists that the former are not the cause of the latter, since "speech is not the cause of speech." In other words, implication is not an existential relation, as is causation, but a logical one. Speech taken as voice, or as bodily reaction, certainly is the cause of speech; but taken as the ideal content of which its existential aspect is the vehicle, it is neither cause nor effect. It is not by any real character peculiar to sounds that thought is to be explained; on the contrary, it is thought and its ideality which explains the word-character of words. Symbols have of course an immediate

existence of their own. But it is not their immediate character which makes them symbols, but the fact that they mediate an ideal content, yielding an intent which directs itself upon an external existent, other than that of the symbol's own immediacy. Symbols do not explain thought; it is thought which explains symbols.

Truth is not a real relation between reals. A correspondence between reals (and it makes no difference that one of them may be regarded as a psychical entity) is merely resemblance, and resemblance and truth are not identical concepts. Just as one Lincoln penny is not true of another, so one real in general cannot be true of another, or have it for its object. Logical coherence within an inclusive system of meanings is inadequate to posit the concept of truth. If such meanings are understood to involve a reference beyond themselves, a more fundamental form of verification is presupposed than that which is given in logical coherence. Truth is the fulfilment, actual or possible, of logical intent; error is non-fulfilment. But fulfilment is a relation between ideality and reality; it has no meaning in the relation between idealities or realities by themselves.

The fundamental contrast thus variously exhibited is *sui generis*. An attempt to find a parallel in the heterogeneity of two dissimilar reals would be futile and misleading. For ideal and real do not differ in essence, but in existence. The difference is exemplified in the relation between promise and performance, a plan and its realization, a possibility and its corresponding actuality. Ideality is intent, reality is fulfilment of intent.

A consciousness in which idealities function is a mediating consciousness. But since ideal and real do not as such differ in essence, it becomes misleading to think of mediation as a process of transforming one real into another. Cognition as a mediatory function is therefore not the discovery or creation of a peculiar class of cognitive objects, having special characters making them peculiarly effective as instruments. The recognition of a certain experience as non-cognitive is itself a cognitive function, an act of classification. But if classification is the discovery of cognitive objects, we would have to suppose the miracle of a non-cognitive experience, in the very act of being recognized as such, thereby becoming a cognitive experience. Knowledge becomes a blind

instrument of unconscious forces, if the ideal content of a mediating function is different in essence from the real which it mediates. Such a theory of knowledge instinctively posits as its own medium a different sort of knowledge from that of which it gives an account, a knowledge which sees the difference in essence, and hence transcends the blindness of the knowledge with which it deals.

The mediate is the immediate. The character and qualities of existents are not external to thought; it is only their existence which constitutes for thought an unassimilable thing-in-itself. Existence refuses to become incorporated in thought; it is the only one of all the categories which is not given when it is truly conceived. For the thought of an actuality is not itself that actuality, but the corresponding possibility.

If ideal and real were not homogeneous in essence, knowledge could not be of *what a thing is*; if they were not heterogeneous in existence, knowing a thing and being that thing would be the same. But since there is a difference between knowing and being, knowledge stands in need of verification. Verification is the process in which the claim of knowledge is made good. It consists of a confrontation of an ideality and its own intended real within the unity of a single experience. The correspondence experienced in verification receives its cognitive significance not as resemblance, but through the intent which is the essence of a functioning ideality, its power of reference and consequent identification.

In a finite experience idealities and realities are given only fragmentarily and in succession. Presented reals may be felt without being known, the corresponding idealities being absent; logical contents may be had which transcend the boundaries set by the presented existents. Memory, expectation and general knowledge involve logical idealities that serve in some degree to bridge the gaps in the presentation of the existential, thus making possible a relative control of the momentary impression and impulse.

It has sometimes been denied that existence is ever given, thus making it exclusively an object of intent and belief. If this were the case, the concept of verification would have to be rejected as an illusion. Knowledge would be a claim destined never to enjoy the satisfaction of even a partial validation. It would be a seeking that knows no finding, a question without an answer. The partial

and relative discrepancy upon which we have insisted would in this view become complete and absolute; the origin of the very idea of certainty, and therefore also of uncertainty, would become incomprehensible. Experience would in no way be distinguishable from imagination, and all experiment would be pure speculation. One cannot legitimately escape this dilemma by limiting the theory to the terms of the external world, withdrawing its scheme of relations from the scope of the theory's scepticism. The dialectic which applies to the terms applies with equal force to the relations. If existences are unknown as to their terms, then they are also unknown as to the relations which the terms sustain. Nor can it be known whether the data which we take to represent them are mere symbols or not. An absolute likeness is precisely as probable as an absolute unlikeness; the only utterance with respect to them which is free from self-contradiction is the negative utterance of a confession of ignorance. It is only with respect to objects whose real nature is known, that I am able to recognize certain representations as merely symbolic. The scepticism here alluded to is logically possible, but practically unmotivated. The arguments by which it seeks to give itself a positive status are necessarily self-contradictory, assuming a knowledge in the premises which the conclusion takes occasion to deny.

It is difficult to doubt that the terms of my own existence are presented. My own existence is surely something more than the conclusion of a syllogism, even if it remains true that its entire external empirical content is never at any time completely given. As for other things and persons, there is a complication involved which offers a difficulty. In the first place it must be remembered that the sensible appearances which we accept as testimony for the existence of external things, are themselves reals, and not mere logical essences. All perception involves a presupposition, a presupposition which constitutes its heart and soul as an intentional act. Perception is the interpretation of its constituent sensory data as self-presentations of the perceived object. This interpretation is in its detail subject to an immanent correction; but it is not subject to cancellation except at the cost of wiping out the function of perception altogether. Within this presupposition sense data serve as partial verifications of our ideas of external things. They are

thus a synthesis of two discrete categories, being both *effects* and *appearances* in one. If they are regarded merely as effects, perception is robbed of its cognitive and revelatory character, at least in its primary relation to things; the cognitive function is pushed one step farther back, the sense data themselves becoming primary objects of cognition. To regard the sensible appearances solely as revelations, is to ignore the natural matrix of interaction in which knowledge has its birth and by which it is conditioned. With respect to the terms of my own existence, then, verification is directly possible; since knowledge and being are here capable of being united in a conscious synthesis. With respect to other existences, verification has meaning within the presupposition which constitutes the essence of perception, albeit it suffers here from a certain indirection. But this indirection must not be identified with the remoteness from existence of conceptual thought, unless we wish wholly to reject the testimony of perception with respect to itself, and confound the ideality of thought with the reality of sense.

It remains, however, a significant fact that no concrete object is ever so completely given existentially, whether directly or under the perceptual presupposition just referred to, that its idea can be said to have obtained complete verification. Time and space, as they separate promise from performance, and all plans from their realization, so also do they separate the claims of knowledge from their complete validation. There is thus an inevitable incommensurability between the scope and extent of the ideal and the scope and extent of the real as given in experience, which makes cognition in its perfection a *desideratum*, both in its direction toward the ideal and in its direction toward the real. The incommensurability lends to the ideal its practical function, and yet at the same time prevents it from exercising that function without risk. An experience in which an exhaustive description of all things was confronted with an equally exhaustive presentation of the same as its verification, would also be an experience in which nothing could happen, and so nothing would remain to be done. Thus we seem to be faced with the paradox that it is the logical imperfection of knowledge which makes possible its practical perfection. If there is no certainty without immediate verification, and if verification

means the cessation of practice with respect to what it verifies, it follows that to concede a practical function to knowledge is *ipso facto* to admit the insecurity of its exercise.

III

If this analysis of the structure of experience is well founded, it follows that human life cannot move forward without the constant and repeated rendering of the subjective decision which we call belief. Belief incorporates knowledge, in that it is a choice among the alternatives that knowledge presents, but it does not rest upon knowledge; for its decision is not commensurable with an objective certitude. Belief has varied forms and objects. It ranges from the trivial to the sublime; it may be the childish confidence of a naïve immediacy, or it may be that faith which is born in the crisis of a profound breach with such immediacy. But in all its forms it is a subjective commitment to an objective uncertainty, and concerns the question of existence or non-existence. The understanding formulates the *what*, belief comes to rest in the *that*. The completeness of its subjective commitment may vary. Its movement may be merely tentative and experimental; or it may constitute itself as a definitive summing up of the total meaning of that life with which, as a whole, the individual is forbidden to experiment, if for no other reason than that he has but one life to live. But whether it is tentative or decisive, belief is never the immediate and necessary consequence of a purely objective motivation. The universal presence of objective uncertainty implies the universal presence of a subjective motivation in the faiths of men, however much they may conceal it from themselves by allowing habit to dull their sensibilities, or by following thoughtlessly in the footprints of others, or by indulging themselves in an overconfidence in their own cleverness and insight.

If none of the more transient and trivial responses to the call of existence can be made without risk, as is indeed generally admitted, it is surely thoughtless to imagine or demand that the fundamental response which we call a view of life, and upon which the others rest, should be found by way of objective certainty. A view of life—that single decisive choice of attitude, which without losing its identity with itself can become commensurable with every finite

situation, declinable in all the innumerable cases that the grammar of existence affords—how should such a view be found if he who seeks it seeks it only on condition that he be made demonstrably safe from the risk of error, demanding here a fullness of objective guaranty which is denied him in every minor relation of life? No, indeed; the basic decision of life is so far from being made for us that it is our deepest subjective responsibility. It is so far from being the most adequately supported by a preponderance of the evidence that may be gleaned by a maximum of knowledge, that it is precisely here that the relative advantage of superior learning is most completely neutralized. In relation to the substance of life, the aristocratic privileges enjoyed by superior intelligence when dealing with its accidents are negatived, and the basic democracy of human existence unmistakably asserted.

Uncertainty is the stimulus of interest. If every choice could be objectively determined, it would be reduced to a matter of course, an automatic process lacking in the subjective tension which is the form of appropriation for all genuine happiness. Intensity of pathos is the measure of our capacity for profound joy. Uncertainty throws the individual back upon himself, unlocks the hidden energies of his spirit, and affords him the opportunity to form those ideal resolutions of the will in which the life of the spirit is realized. Strife and struggle, anxiety and hope, fear and trembling, despair and faith, are the disciplinarians that fashion the personality. The lofty calm in which a disinterested, or merely esthetically interested, contemplation of idealities is indulged, has been called the life of pure spirit, in contrast with a life dominated by the natural urgings of the human animal. This spirit lives by a retreat from life, and is an expression of aristocratic privilege. The passionate faith in an existence which commands the total interest and concrete pathos of the individual is the distinctively human spirit in its highest expression. It lives by pressing forward, and is not a privilege of the few. It is a fundamental human passion; and the passions, as Lessing says, place all men on a footing of equality: "*die Leidenschaften machen Menschen allen gleich.*"

But is not probability the guide of life, and is it not subject to an objective calculation? The calculus of probability is a very

remarkable invention of the human mind, seemingly capable of distilling knowledge from ignorance and truth from error, transforming admitted uncertainties into demonstrated truths. Where certainty is unattainable, there is at least evidence; and it rarely or never happens that the weight of evidence is equally balanced. The predicament of Buridan's ass seems quite fictitious, one not likely to offer itself in the infinite complex called human life. I have only to seek and follow the preponderance of evidence, in order that my every problem may receive an objective solution. While knowledge would not in that case abolish uncertainty, it would indeed univocally determine choice. The main movement of life would thus be directed outwardly, toward a greater and greater objectivity. The subjective would be reduced to a troublesome or negligible appendage, to be eliminated as far as is humanly possible. Even latitudinarians in ethics have on this point sometimes displayed a most exacting rigorism; for some of them have made it an absolute moral duty never to believe anything except that which is supported by a preponderance of evidence.

I must confess that I find in myself no echo of this moral principle, nor can I subscribe to Bishop Butler's maxim in all its universality. The assertion of the moral principle seems to me to rest upon a confusion of things very different. It seeks to enforce intellectual honesty. But it errs in assuming that belief is or should be a simple function of the intellect alone. Intellectual honesty by all means; the preponderance of evidence is what it is, and should of course be acknowledged for what it is. The probable is the probable, and the improbable is the improbable. It sometimes happens that men attempt to carry water on both shoulders. They desire, for example, to enjoy the advantage of the moral elasticity which comes from being in the minority. But they are not willing to pay the price, for they also want to enjoy the peace and security and objectivity which comes from being in the majority, and so we find them speaking and writing in the name of the many, but against a supposed majority. And so also in this connection: men wish for one reason or another to believe in the improbable, but they also wish to claim for themselves a higher knowledge, a knowledge in advance of the age, in virtue of which the belief in question is no longer improbable, but even

certain. Such double-mindedness betrays a sorry confusion of mind, and is ultimately rooted in cowardice.

There are indeed situations in which there exists no ethically defensible motive for believing contrary to the calculations of the understanding. But there are also situations in which the refusal to venture on the basis of an improbability, betrays sluggishness of spirit. I need not remind my hearers that I am speaking of belief as a factor in the forward movement of the personal life, and not of that attenuated function which we sometimes call belief, but which is simply and solely the casting up of intellectual accounts. The conviction that is sometimes attached to scientific conclusions is really a work of supererogation; what the intellect requires is nothing more than insight into the available evidence and its probative force. Such insight is a purely objective function; it lacks the subjectivity characteristic of belief, and the retention of the name in this connection makes it necessary to distinguish between objective and subjective belief. From the standpoint of life, the former is otiose; the latter alone is a vital and moving force.

In a concrete situation, where action is the outcome of belief, it may and does happen that both the claims and the responsibilities of the personality burst the bonds of a calculation of probabilities. The actual is not identical with the possible, nor the possible with the probable. The probable and the possible are categories which, while objective in their reference, have their grounds in subjective limitations. Probability is not an objective force in events, working to bring them about in proportion to its preponderance. And the same holds true of the possible. The seemingly impossible happens, and the event that has the odds overwhelmingly against it does come to pass. The realm of the possible is an untamed giant, and it is a stupid delusion to imagine that this giant has been tamed and imprisoned in a flimsy network of prudent calculations. Life teaches that noble enthusiasms are seldom born out of the calculations of the understanding. Those who must have a reasonable assurance of success before venturing on any project, rarely venture anything worth while. But the noble spirits who have chosen causes that needed to be served, instead of causes whose chances of success were such as made them seem capable of

serving their representatives, have usually had the probabilities against them when they ventured. Should their enthusiasm have blinded them to this fact, there were doubtless contemporary critics to remind them, and to remind them also of their folly. And if their efforts finally meet with success, other critics of the same order will imagine that they understand the necessity of that success, finding in the category of cause and effect an excuse for interpreting the transition immanently, as the necessary unfolding of what was originally present. This latter wisdom seems to me the greater folly. For it was doubtless quite true that it was improbable. But it is nonsense to interpret any change as necessary, since necessity is a category which expresses self-identity, its principle being that a thing is what it is.

Belief in the improbable is not self-contradictory; neither is it inherently unethical. To retain confidence in another's integrity even when appearances are against him, and while the understanding is still unable to exhibit them as mere appearances, is surely not unethical; it is rather evidence of a genuine goodness on the part of the believer. The maxim of probability as highest principle is the wisdom of those who have forgotten what enthusiasm is, and that it is man's chief crown of glory. It is a principle which would abolish altogether the sense of wonder. Wonder is a passion which has its childish vagaries, its disappointments, and its death in despair; but it has also its rebirth to a new life, and is the beginning and the end of a more profound apprehension of reality.

The more trivial the issues that confront me, the more mediocre the ends I set myself, the more commensurate will my decision be with a calculation of probabilities. The more ideally significant the issues, the more deeply my decision works back to qualify and transform my life, the less will it be possible to make them commensurate with such considerations. There comes a point in the scale of human decisions when these cease chiefly to be an expression of outward circumstance, and of the knowledge of circumstance, and become instead an expression of the quality of the personality that decides. We begin life by submitting reality to a cross-examination, exploring its secrets for what we imagine is our advantage. But at a critical juncture the tables are turned, and reality becomes a cross-examiner, compelling us to answer so as to

reveal what there exists or comes to birth within us. It is then that the spirit becomes mature, and its answers yield the fundamental faiths upon which our lives are borne forward. The relation between objective and subjective in reference to belief is this, that the more fundamental the faith, the less does a difference between more or less of knowledge and of objective reflection play a decisive rôle in its adoption.

This can be elucidated by reference to an example or two. There is an aristocratic disease which attacks chiefly those whose situation in life is such as to permit them the luxury of diverting the energies of thought from its primary task of thinking other things, to the task of thinking itself in an effort to construe its own validity. This effort inevitably gives rise to a fundamental scepticism. How can the intellect make good its claim to think the past and the future, when every thought is limited in its existence to the present? How can one thing possibly know another thing? How can numerically distinct thoughts, having different psychological and physical contexts, identify the same topic of discourse and carry the same meaning? When such doubts arise it is evident that no calculation of probabilities will suffice to silence them. Once having taken command of the course of thought, they can effectively sustain themselves indefinitely, interpreting in their own spirit every opposite consideration. The cure for such doubts does not lie in more reflection, but in a new point of departure for reflection. Such a point of departure is related to the preceding doubt as an act of faith which constitutes a genuine leap. Its motivation is and can be nothing but the felt presence of an elementary human need, namely the need of finding in thought a guide and an inspiration of action, rather than the blank futility of a paralysis of all action. The plain man believes in the validity of thought instinctively. The logician is no nearer than he to a demonstration that it really is valid; he is in precisely the same situation of having to believe or perish, and his only advantage is that he may gain a more acute consciousness of his necessity through being afflicted with the disease of doubt.

The inductive leap is an example of the same necessity. Is the correction of our errors and the revision of our formulas in an effort more closely to approximate the ultimate structure of events

a futile occupation, like the gambler's everlasting search for an infallible system? Does reality perhaps have no structure, the appearance of law in things being merely the accidental result of humanly superficial observation and humanly limited experience? Or is our progress real because its goal is real? Is it a search that has meaning and an approximation that actually brings us nearer? This doubt cannot be quieted deductively, since it does not deal with the implications of ideas, but with a question of existence. It cannot be disproved inductively, since it attacks the very principle by which particular facts can be regarded as evidence for anything beyond themselves. It is a faith rooted in human need; the scientist and the philosopher have no other recourse with respect to it, than to yield to the universal human impulse. What is the upshot of Kant's deduction of the categories but a demonstration that without them no experience can be orderly? And is not this at bottom an appeal to human need, the need of food and shelter, and the need of a conscious command of the resources of existence relative to the provision of elementary necessities?

How strange that the highest principles of the reason should appear to be beggarly articles of faith! And yet this would seem to be inevitable if reason is to retain a foothold in existence, not avoiding its responsibilities by emigrating to a new continent, where existence and non-existence do not matter.

I pass to an ethical example. Is the sense of obligation a genuine revelation of my situation, or merely a passing illusion? There are men bold enough to deny that they have this consciousness; and every man doubtless has moments in which the possibility of casting off the yoke of ought appeals to him as an agency of liberation. It has been explained as an anachronism, a survival from a despotic organization of society, living a ghostly existence in the minds of men after its material incarnation has ceased. In the face of such doubts, where is the indisputable evidence for its validity? The exhibition of a more or less precarious finite teleology for the moral consciousness is a misunderstanding of its essence, since such a teleology is incommensurable with its demands. The ethical consciousness is subjectively motivated in moral passion, in an enthusiasm which posits the true being of man in a relation to something higher than himself, justifying his exer-

cise of a mastery over nature only in and through the fact that he has himself become a servant. Moral science neither creates nor validates this enthusiasm, but rests upon this consciousness as its underlying presupposition. Where moral passion is lacking, objective reflection cannot produce it. The need for an ethical interpretation of life is not indeed the need for food and shelter; but shall we therefore say that it is less fundamental to human nature? And is this need not found in an intensity approximating ideal proportions, as often in the ignorant as in the wise, in a cobbler as often as in a professor of philosophy? Without denying the significance of ethical science, it should be clear that the basic attitude of spirit is the essential element of the moral consciousness. And this is not a matter of knowledge, but of depth and specific quality of pathos.

As one who confesses to the need of religious categories for his own life and its interpretation, may I select for my final illustration the so-called problem of the existence of God. Every man feels, at least transiently, a need to find an explanation of his existence and its conditions in terms of a cause which can accept responsibility, and can discharge this responsibility by assigning to his life a goal capable of enlisting his wholehearted interest and devotion. In this sense to ask concerning the whence and the whither of life is not to ask a scientific question, nor one that can be answered by an appeal to learning of any kind, philosophical or theological or scientific. The problem is human, not scholastic. The structural elements of the world are indeed called causes, but they are not such as are capable of accepting responsibility, not even for their own existence or behavior. The laws of nature give no direction toward a goal, being themselves necessarily neutral toward all goals in order to serve all, and therefore neutral as between good and evil. The entire system of scientific explanations, construed in terms of their present status or in terms of their ideal perfection, seems incapable of satisfying the deepest human demand for explanation. The most profound explanation is the discovery of a teleology that satisfies the deepest need; that which is good in itself needs no explanation, but is itself the explanation of other things.

The religious evaluation of the need of God is that it constitutes

man's highest perfection. It is not a need specifically germane to the business of the scientist; it is a need that characterizes man as man, and in this supreme passion all men are made truly equal. The attempt to satisfy it by scientific researches or by dialectical developments is a misunderstanding which reduces it to a relativity. The proofs for the existence of God are merely more or less adequate formulations of the question. The search among the external values of existence (orderliness of plan, ingenuity of contrivance, beauty of appearance) for a perfection in the works of God which should adequately verify his own perfection is a search which ends in indecision as it begins in doubt. It suffers from an unconscious self-contradiction; since it seeks to establish in the world as conceived without God a perfection of teleology which would make him superfluous if it could be found. It is not the perfection, but the imperfection of the world, which stirs the mind to a search for communion with the divine. God is the answer to the capacity in man for an infinite interest. The faith which is born of this need and interest can only maintain itself by a constant renewal of its victory over objective uncertainty and subjective despair. It is always in deep waters, always struggling for existence against objections and difficulties; and yet it is the only form in which man can find God. The religious life has of course, like every other life, its immediacies and its confirmations; but as lived in time it cannot escape the possibility of an ambiguous interpretation of its experiences. Its decision is therefore not a possession, but a renewal; it is not safely guaranteed by any sort of objective authority, but subjectively earned again and again. It is not an inert complacency, but a victory over uncertainties and improbabilities and impossibilities.

I have not proposed to offer a criticism of human beliefs. Such criticism is certainly a *desideratum*, since human faiths are of varying content and value. The content of belief may be noble, sublime, ridiculous, or abhorrent; its form may be a childlike naïveté, or a mature breach with all naïve and immediate valuations. What I have tried to set forth are certain preliminary considerations: that there is a subjective factor in all beliefs, corresponding to the objective uncertainty which they resolve; that the human attitudes which constitute the substance of life are faiths that cling to that

which is not completely known, not logical insights into demonstrated verities; that these faiths are presuppositions for reflection and not the necessary outcome of reflection, retaining the status of being presuppositions even after reflection upon them. Reflection is a broker which mediates between the particulars of a given or posited transcendence. The transcendence itself is either given, or posited by passion, and here reflection can only recognize its own impotence to add a cubit to a man's stature.

A criticism of fundamental beliefs is therefore a criticism of passions, not of knowledge. A lower and imperfect passion can only be corrected and transcended by a higher and more disciplined passion. Passion rather than knowledge is the more adequate and concrete expression of the existential situation, since it is the mark of transition, and human existence is essentially in transition. Passionless contemplation is either itself the expression of a negative passion rejecting the forward movement of life, or it is an irrelevance to a criticism of beliefs. The important considerations with respect to any confession of faith, says Nietzsche, are: what sort of heaven does it picture? and with what courage does it inspire the believer? This posits the subjective principle I have here been urging. Hostile as Nietzsche is to that interpretation of life which I would avow, his pathos evidently having been profoundly offended, nay, wounded by the religious consciousness, it seems to me possible to learn from this author more on this point than from most modern writers; for he grasps the issues essentially, knows that they concern the health or disease of the soul, and fights his battles on relevant ground. It has been said that only two sorts of men really know anything about love: the happy and the unhappy lovers; mere spectators remain outsiders. And so with every other fundamental passion, including religion. The criticism of belief is a field only for those thinkers who know how to invest themselves from head to foot in the universal garment of humanity, the pathos of a concrete personality facing the concrete uncertainties of existence. This pathos is essentially the same for the wise and the unwise, the scholar and the plain man; in the realization of this fact we become conscious of the essential democracy of life.

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REAL AND IDEAL RELATIONS.*

NO two terms in the whole vocabulary of philosophy have changed their meaning and even reversed their application so frequently as the words *real* and *ideal*, and no terms have proved so indispensable. We may form the most determined resolution to dismiss the distinctions implied in realism and idealism. It is no use: we only furnish a new instance of the maxim *Naturam furca expelles*.

The terms real and ideal in fact express a distinction which is fundamental in human experience and is apparent in the first moment of reflection. Self-consciousness reveals us to ourselves in two kinds of relation to our environment: in a real relation and in an ideal relation. Real relations bind us to the material world of things, the physical world; ideal relations bind us to the spiritual world of persons; they are the basis of social, moral and religious institutions. The two kinds of relation, mutually exclusive and never identical, lead to a distinction of nature in our own self-consciousness, the distinction between a body which suffers and acts and a mind which knows and understands, between reality or fact and knowledge or truth.

Real relations are *constitutive* of the physical world of which our body is part; ideal relations are *representative* of the universe which our mind apprehends. Examples of real relations are: The conflict of Greeks and Trojans on the plains of Ilium—the clash of forces, the death-dealing blows, the fortified city, the ships on the sea-strand—in so far as the conflict was an actual occurrence under spatio-temporal conditions and involving phys-

* Presidential Address, Pacific Division of the American Philosophical Association, November 30, 1928.

ical movements. We can indeed only *represent* these past occurrences, but we distinguish them as real from the romantic interpretation of them which we represent as ideal. Examples of ideal relations are: The wrath of Achilles, the guile of Odysseus, the graciousness of Helen, the pride of Agamemnon, the motives and purposes of the conflict,—all that in Homer, and the generations since Homer, and in our minds today constitutes the *Iliad*. Real relations are the notes given forth by the musical instruments in the concert hall, the vibrations produced by the bows drawn across the stretched strings. Ideal relations are the symphony, and the recollections and emotions associated with it. Real relations are the space we measure in inches or miles, and the time we measure in minutes or years, which separate us and bind us in one physical universe; ideal relations are the understandings and sympathies and antipathies which constitute our intercourse. Real relations are all those relations which form the physical basis of our lives; ideal relations are all those relations which give meaning and direction to our spiritual activity.

No one confuses these two kinds of relation, for no one can in fact fail to recognize the distinction between what concerns the material aspect of life and what concerns its spiritual value.

O, who can hold a fire in his hand
By thinking of the frosty Caucasus?

Yet the very distinction and the terms which express it seem to determine in advance the status of the two classes of relations distinguished. The terms real and ideal bear witness to a bias in our nature which leads us to regard the material basis of our lives as more original than our spiritual activity, and as independent of it. The very opposition it implies seems to stamp on the ideal a character of unreality, and this conception of the unreality of the ideal agrees with common-sense. The plain man thinks that things are real and thoughts unreal. Ideas seem to him mere shadow things, the stuff that dreams are made of. It is a false opposition. Ideal relations are in no sense unreal. As belonging to human experience both the real and the ideal have equal claim to existence.

What appears to give real relations a privileged status is that

they are the subject-matter of the physical sciences. This seems to make them the fundamental basis of reality. For science is generally regarded as discovery, and the aim of scientific inquiry seems to be the laying bare of the real existences themselves of which the universe consists, the revelation of the reals which are the terms of the real relations.

This generally accepted conception of science I shall argue is false in fact. Real relations I shall endeavour to show are not relations between reals. The only relations possible between reals are ideal. It is an entire misconception of the nature of science to suppose that its end is discovery. Indeed I go so far as to say that if this is the scientific ideal, its enterprise is quixotic. For all our knowledge is of relations, and while we may infer that there are things, discovery or immediate intuition of them is in the very nature of knowing impossible. Science is a work of interpretation involving rational construction.

I propose in the first place to examine the way in which the two kinds of relations enter into and form an organic part of human experience. Then briefly to follow the speculations of philosophy in regard to these two kinds of relations. Finally to indicate the significance of the new method which has been forced upon science by the adoption of the principle of relativity and to define precisely the sense in which science may be described as idealistic.

I. HOW REAL AND IDEAL RELATIONS ARE RELATED IN HUMAN EXPERIENCE.

The two kinds of relations enter into human experience under the familiar forms of knowing and acting. Every voluntary act of the conscious individual unites a system of real relations and a system of ideal relations. An individual experience appears to us as a development, progressing and enduring, forming itself continuously from moment to moment. At the focus of this activity there converge the two systems of relations forming two heterogeneous causal chains, one inserting the forming action in the material world, the other uniting it to the spiritual world. The one causal bond we name efficiency, the other finality. To will an end we must know; to effect an end we must act. Knowing is ideal, acting is real.

What, then, is the relation to one another of these two kinds of relations? They are indissolubly united in experience and yet they are never identical. The question of their relation is of the first importance, not only on account of its theoretical interest, but also on account of its practical scientific interest, for in knowing and acting we have the immediate experience which leads us to the conception of a mind and a body. It is possible, therefore, by attending to the activity of knowing and acting in experiencing it, to intuit the relation of the relations before the hypostatization of a mind which knows and a body which acts. In fact when we are considering real and ideal relations we are making no assumptions at all, we are dealing with immediate facts of experience in their immediacy. Knowing and acting are facts of experience and we have only to refer to them to indicate our meaning. Knowing is an activity purely and entirely ideal, it is the relation of a subject to an object, a relation which is purely representative. We call the relation ideal because it has no efficiency. Acting is a relation which effects changes in reality. Acting is dependent on knowing for guidance and direction and it is this dependence which distinguishes it from mechanical movement. Knowing gives to acting its finality but it does not supply its efficiency. Mind and body are hypothetical existences; knowing and acting are immediate experience. Ideal and real relations are the immediate content of consciousness.

The two kinds of relations which constitute knowing and acting have two different principles of unity. Ideal relations have an inner unity, that is, a unity within experience; real relations have an external unity, that is, a unity beyond or outside experience. Ideal relations refer to the subject of experience, real relations to the object of experience. Ideal relations are centripetal, real relations are centrifugal. Ideal relations converge, real relations diverge. We find accordingly two opposing principles in theories of knowledge. Realist theories regard knowledge or ideal representation as originating in the external object, whatever that object be, and imparted to the subject by outward impressions which become inner representations. Idealist theories, on the other hand, regard

knowledge as inwardly originated and outwardly directed towards actions. Real relations for the idealist are the objectifying of its own experience by the subject.

The difficulty in all realist theories is to discover, or even to imagine, how effectively independent objects can generate ideal relations. The difficulty of all idealist theories is to understand how ideal relations can represent real relations.

II. HOW IDEAL AND REAL RELATIONS ARE HYPOSTATIZED IN MIND AND MATTER.

Relations are not self-subsistent. If there are relations we say there must be things related. Relations require a support. While however we know relations immediately the things in relation can only be inferred. Modern philosophy arose in a revolt against authority and in a direct interrogation of experience, and the first serious problem which presented itself was the nature of substance or real being. When we reflect on our experience we can become immediately conscious of our activity in thinking but we cannot find satisfaction in the identical proposition, 'thinking is thinking,' or in the existential proposition, 'thinking is.' When in thinking we are conscious of thinking we go on to say there is a subject which thinks and an object which is thought about. The thinking about which alone we can make a categorical proposition, is a relation. The terms related, the subject and object, are hypothetical. If they are substances they are only known in their relation.

It is interesting to see the form in which this problem expressed itself at the beginning of the modern period, and to compare it with the form which it has assumed with the advance of modern science. The problem is persistent in the history of modern philosophy from Descartes onwards. The first attempts at its solution all found it necessary to introduce the conception of God. It was in this way that Descartes, Malebranche and Spinoza each sought a way out of the difficulty. Modern realist theories practically adopt the same device. The neutral monism of one form of modern realism and the panpsychism of another are simply forms of the God-substance theory of Spinoza, divested of theological associations by avoiding the use of the term God.

It is worth while to consider the problem in the form which it presents to the 'seventeenth century philosophers. The fundamental fact for them is the existence in experience of the two kinds of relations we have denominated ideal and real and their complete heterogeneity. It never occurs to them to suggest that the one set has a superior claim to existence or that the one has a derived existence dependent on the other. They differ only in the way in which each supposes the two kinds of relations to be unified in experience by God. For Descartes each kind of relations implies a substance; ideal relations imply a thinking substance, real relations an extended substance. God, the original first cause, is the creator of both substances. God has implanted the ideas in the thinking substance, the soul, and has imparted movement to the extended substance, matter. Ideas have formed the soul, movements have formed the body. Clear and distinct ideas correspond to fact and are true because God cannot be a deceiver.

Spinoza, identifying God with substance, regards the opposition between ideal and real relations as absolute. The mind for him is the idea of the body, the body the ideate of the mind, and both are modes of the existence of God. The attributes of thought and extension are as distinct in God as the two substances in Descartes' view were distinct from God. Ideal relations are ideal and ideally related; real relations are material and mechanical. There is no identity of mind and matter, not even in God.

Malebranche follows the same principle of the absolute heterogeneity of ideal and real relations, and seeks the solution in the conception of God, but along a different line. It is by ideal relations alone that we are united to God and we know material things only ideally. It is *in* God that we see and know all things, ideal and real, spiritual and material.

In each system (Descartes, Spinoza, Malebranche) there is the recognition of the heterogeneity of ideal and real relations and the same principle of identity by reference to an intermediating reality. The principle of modern realism is essentially the same. Real relations insert us into the external world: ideal relations constitute our knowledge of this external world: truth is the

correspondence of ideal relations with real relations; but the external world itself to which both these kinds of relations unite us, which is both thing-in-itself and object of knowledge, is the substance which supports both kinds of relations.

The problem of modern realism is: Given ideas, which are subjective representations of the physical world, and movements which relate us to the physical world, how are ideal relations related to the real relations? And the realist solution is to posit a reality, autonomous and independent, which manifests itself in each mode. In this way it accounts for the double correspondence, namely, that between the real relations and the ideal relations, and that between the knowledge of reality which is subjective and the reality known which is objective. In the realist theory, accordingly, real relations are our insertion into the external world, and ideal relations are the representation we make for ourselves of these real relations. Truth is the correspondence of these ideal representations with the real relations. The concept of matter takes the place of the concept of God.

The recent psychological theory known as Behaviourism is the denial that there is any substantial difference between real and ideal relations. It affirms without any reservation the simple and direct identity of thinking or discursive reasoning and the movements of the muscles of articulation. The movements of the larynx, the tongue, the throat, the lips, which produce articulation, and the succession of images and ideas in the mind which produce thinking, are not different things but one and identical. This identification of real and ideal relations is put forward as the ground for rejecting any kind of substance or existence, anything spiritual as distinct from material, as the subject-matter of psychology. For the behaviourist therefore psychology is not the science of soul or mind as distinct from physiology; it recognizes no *psyche* distinct from *physis* or *hyle*; it is one of the natural or physical sciences which takes as its subject-matter the particular kind of responses which certain forms of highly organized matter offer to particular kinds of stimulus. The psychological method which Behaviourism condemns is introspection, the method which claims to be

able to turn the mind's attention inwards upon itself and observe the soul directly in its activity.

It is clear that if we base all science on the direct interrogation of experience, and if we reject all hypothetical existences, or at least deny them any privilege on account of the immediacy of the inference, then we must admit that all observation of natural phenomena is on the same plane. A phenomenon is external or internal according to the point of view; or rather, the distinction between external and internal is unmeaning. On this ground the behaviourist is clearly right in saying that it is impossible by direct observation to discover the soul, or any kind of entity such as consciousness or mind, which we can then present as a spiritual substance. The observed phenomena which give rise to the idea of such spiritual substance are, he will say, on precisely the same footing as those which give rise to the idea of material substance.

Suppose we admit this, does it justify us in dismissing the distinction between real and ideal relations? Here it seems to me the behaviourist falls into evident confusion. It is intelligible to contend that real relations are ideal in the sense that they are a mental construction; or it is intelligible to say that ideal relations are an exotic exhalation of real relations; but most certainly real and ideal relations are not identical. In simple direct interrogation of experience they belong to different orders of phenomena; as relations they relate on entirely different principles. To refer them to one and the same substance is intelligible; to deny or reject substance and affirm their identity as relations is unintelligible.

Our experience, then, consists of the kind of facts we call relations and these relations are of two kinds, mutually exclusive. There is no principle by which we can reduce them to a single genus. Relations are not self-subsistent; we immediately infer from them the existence of terms. The relations alone, not the terms, are directly experienced. The terms are implied or inferred. Accordingly the metaphysical problem is to devise a scheme which will rationalize the existence in our experience of these two kinds of relations. From real relations we infer that there are things and that things are material; from ideal relations

we infer that there are minds and that minds are spiritual. The inference is immediate but not the things inferred. Matter and mind are known mediately by the real and ideal relations which alone are experienced. Matter and mind are not intuited, they are conceived. Concepts are not discovered by analysis of experience; they are a synthetic construction.

Every metaphysical analysis of experience must take into account the fact that there is no way of observing directly the genesis of consciousness from unconsciousness. Experience does not begin in some primordial act of awareness. We cannot observe the genesis of consciousness either by introspection or by outward observation. The genesis of our knowledge of the internal or the external world can only be theoretically constructed. We can no more induce experience in a mind than we can impart life to a statue. We cannot analyze experience by the chemist's method, separating out its constituent elements and determining by experiment the order and manner of their combination. Experience is a whole, indivisible, individual, complete at every moment and all-inclusive. It may present infinitely varied and infinitely variable aspects, but there is no principle by which it can be broken up into constituent elements, or by which one aspect can be studied in abstraction from the whole. This does not imply that the method of philosophy is unscientific; the same impossibility meets us in biology, the science of the organism. The first important question therefore which the philosopher has to decide is whether the object of his study, reality as a whole, the universe in its comprehension, is analogous to an inorganic object, or to an organism, whether the universe in the original conception of it is living or inanimate, for upon his answer depends the method he will follow.

How then is the philosopher to begin? He must by interrogating his own experience decide what mind is. Obviously this is a more fundamental and a more crucial question than what matter is. At the beginning of the modern period, when philosophy definitely emancipated itself from authority, the first question the philosopher had to ask himself was, What is mind? Two answers, diametrically opposite, were forthcoming. The first was the answer of Descartes. He conceived the mind

to be a thinking substance, a substance whose essential attribute is thinking, a substance distinct from that of the extended world which is known not directly but by an idea. The other answer came later in the history of thought but seems to respond to an earlier stage in human reflection. It is the answer of Locke that the mind is the sensitivity of a material object to the impressions of other objects. In the first answer the philosophical problem pivots on the reality of the inner world of experience; in the second on the reality of the external world of material objects. The first tends to make real relations depend on the activity of the subject of experience, the second tends to make ideal relations depend on the reality of the spatio-temporal world of which they are a subjective valuation.

There is no way of reconciling the two answers. If one is true the other is false. On the other hand neither answer is final. Were we left with the bare alternative of choosing one answer or the other progress in philosophy would be impossible. There is something more important than the actual answers which Descartes and Locke respectively gave to the question: What is mind; is it a substantial soul or a sensitive *tabula rasa*? It is the divergent direction in the search for truth which each answer indicates. Descartes sought the primordial principle of reality in the activity of experience, Locke in the inert passivity of the external world, the object of scientific knowledge.

Real relations came to be regarded, both by the followers of Descartes and by the followers of Locke, as the relations between inert material things, and ideal relations as the relations between active thinking things or minds; and speaking generally this division has been accepted alike in science and in philosophy throughout the modern period. In philosophy it is the basis of the distinction between realism and idealism, and in science it is the ground of the distinction between physical science and psychology.

A challenge to the whole conception was thrown down by Leibniz, and an entirely new direction of philosophical interpretation was proposed by him on the basis of a new metaphysical theory. This theory was that substance is active and of the nature of force; that there is only one kind of substance and

that it exists in individual minds; there is no material substance. It is only today when the fundamental conceptions of physics are undergoing a radical revision that the full significance of the Leibnizian theory is appearing.

III. WHAT THE REALS ARE.

Corresponding to the two kinds of relations it would seem there must be two kinds of things which furnish us with knowledge: spiritual things or minds which know and are known; and material things which are known but do not know. All knowledge, whether it be of minds which know, or of the world which is known, is mediated by ideas and ideas are relations. What then are the *reals* which we distinguish from the mediating ideas? The distinction in ordinary experience between real and ideal relations seems to provide a perfect answer. The reals, it will be said, are the terms which support the relations we call real relations. This is the answer of materialism. It is the answer which has been given with complete conviction and absolute confidence over and over again in the history of philosophy. It was the answer of Leucippus and Democritus in the pre-Socratic era. It was the answer of Epicurus and Lucretius in the later Greek philosophy. It was the answer of Gassendi and Hobbes in the modern world. It is the answer being put forward today, with adaptation to the newer discoveries in science, in the scientific materialism and psychological behaviourism of the present time. It is an answer which has never given and cannot give satisfaction. It had to meet the direct challenge of Plato in the ancient world and of Leibniz in the modern world. It cannot make good in face of the fact that while matter claims to be real it is essentially ideal. The matter to which materialism appeals has not the immediacy of the 'I think' nor the directness of perception. It is only in perception that we touch reality and perception is an activity of the mind. The object in which we locate the reality to which perception relates us is only inferred from the relation. The relation alone is immediate.

But is the idealist's answer any more satisfactory than the materialist's? Clearly not if his answer implies an immediate

relation between the mind which knows and the mind which is known. Another mind, or even one's own mind, is only known by an idea, and the idea is not the object but the relation of the subject to the object. We cannot say then that real relations are relations between things and ideal relations relations between ideas. It is equally futile to hypostatize matter or mind if our purpose be to rationalize knowledge.

When Leibniz put forward the challenging theory that the relations between the real constituents of the universe are not real but ideal, it was with no intention of rationalizing knowledge. His fundamental interest was metaphysics. He was intent on demonstrating the true nature of the real units or simple substances which compose the universe.

If we start from reality, and not from some assumption about reality, we cannot side-track the question: What are the reals? We have seen that it is impossible to give an answer by abstracting the terms of the knowing relation and hypostatizing them as material and spiritual substances, or entities, or things. The attempt to do so leads directly to the stultifying conclusion, so clearly demonstrated by Kant, that we have no knowledge of things-in-themselves. The only answer to Kant is to point to the immediacy of the knowledge of conscious activity. There is a direct contact between life and knowledge which does not imply the separation of the two terms of the knowing relation. The real is not an object thought, whether the object be spiritual or material. The real is the subject thinking.

The dilemma in the metaphysical problem: Do we know things-in-themselves? lies in the fact that in knowledge the universe is one, in reality it is composite. Were the universe not composite there would be no relations, or what is the same thing, relations would not relate. If the universe is composite there must be real components. Are, then, these reals inert or active? The criticism of the atomic theory shows the futility of positing these real units in matter. The only real units are in the living world and living units are essentially active. Clearly therefore we have an alternative to the old atomism. We may take as the type of simple unity the kind of unit we find in the living world. In the ordinary plain meaning of the terms this

is precisely what Leibniz did. When he found that the concept of atoms and void would not work, he considered the nature of spiritual units and found in them a concept which would work. The units of the living world are activities, they are individual and therefore indivisible. They satisfy the metaphysical requirements that they should be simple, that is, indivisible, and that they should enter into compounds. For this illuminating concept we are indebted to Leibniz. I propose in what follows to deal with the concept itself from our own standpoint, considering the problem as it exists for our modern world.

What then for us in our reflection on experience is the primordial fact? Clearly it is not some simple entity which we can indicate as an object outside us, nor is it an internal object or self confronting an alien world. It is not an entity but a relation. Our first awareness is of activity, a relating activity. This and only this is our first form of reflective self-consciousness. The 'I think therefore I am' is not the discernment or discrimination of a thinking substance but the direct awareness of activity in being, or rather of an activity conscious of itself in its activity. All our immediate knowledge is of relations and within this world of relations we distinguish without limit. Whenever we are conscious we are conscious of something going on. In actual experience this world of relations never transforms itself into a world of things related. There is no experience of inertia. Further, all this activity is individualized and also it is self-centred and self-referred. The reals then are self-centred, self-referring, individual activities and they constitute the universe.

It will be seen at once that in this way we affirm reals which are not inferred entities but directly known activities. There are two meanings in which I may refer to myself as 'mind,' 'self' or 'ego.' I may mean the subject in the thinking relation when I think of an object. I may then think of this subject, myself, as an object existing when I am not thinking. Such an existent subject or self could only be hypothetical. It may be a necessary logical inference, but I have no direct acquaintance with it. But also I may mean the self I am experiencing in my activity. In this case I am not inferring a self but I am

conscious of myself in my activity. In this meaning I not only know reality by direct acquaintance but I know there is no other way in which I could know it. Here then is our first secure position. The reals are the individual activities of the universe in their immediacy.

At this point we are invariably met with the argument, supposed to be fatal to any claim to knowledge of the external world, that to identify the real with our experienced activity can only lead to a subjective solipsism. We have indeed to admit that so far as immediate knowledge of the real is concerned there is for each subject of experience only one real and it is all-inclusive. It is impossible to deny that the world I know is the world of my experience and there is no other. The manyness of the reals, if the reals are many, cannot be an immediate datum of consciousness, it can only be an interpretation of what is immediately experienced in consciousness. So far however from this being a disadvantage to our argument, it is in fact the very nerve of it, it supplies it with its interpretative principle. There is no need to disown or oppose the solipsistic conclusion, precisely because it is the recognition of the solipsistic character of my own experience which enables me to form the concept of a universe constituted of solipsistic experients. Such a universe is a rational hypothesis because it is based on indubitable and intelligible fact. If I know by my own experience what a real is I know what other reals are. I can affirm with absolute logical necessity that if there be other reals they will be, like me, solipsistic individuals, who cannot pass out of themselves into me any more than I can pass out of myself into them.

IV. THE REAL RELATIONS OF THE REALS.

If we assume the truth of our hypothesis that the reals which compose the universe are individual solipsistic subjects of experience, it will follow that the relations between reals cannot be real relations. The relations which give efficiency to actions will fall within individual experience and not lie between individual experients. The only relation possible between reals will be ideal. Yet real relations are what we all without exception

regard as laws of nature, universal in their application, absolute in their working, independent in their activity. What then are real relations? How do they acquire universal recognition? And what is the nature of their independent validity?

Real relations are the order which the individual subject of activity introduces into its perceptions in the interest of its actions. No agent can act in a chaotic universe. The first need of action is coördination. What is the nature of this coördination and how is it effected? To answer this question we must first acquire a full comprehension of the nature of science and the limitations to scientific work.

There is a difference which strikes everyone on reflection between the real world of our ordinary perception and the real world of our scientific conception. Both worlds are appearance. The distinction between them is not that which philosophers make between phenomena and noumena, between things as they appear and things as they are in themselves. The perceptual world is the objective world as it actually appears, the conceptual world is the same objective world as we imagine it would appear were the limitations of perception removed. Moreover, there seems to be a direct passage from perception to conception. It is very difficult to divest ourselves of the idea that were the ordinary powers of our sense-organs heightened we should be brought nearer to a view of things as they really are, and that if we could know the world in an infinite intuition, as we suppose God knows it, we should have a perception of the real from which the need of conception would have wholly vanished. This common-sense view which underlies scientific realism can be shown to be a complete misunderstanding of the nature of scientific work. Two or three simple illustrations will make this clear.

First, we never really 'see' any object in the material world. Before there can be vision of an object there must be an image of it and this image is formed by the convergence on the retina of rays of light proceeding from the object. There is no convergence of rays of light in nature; that is, the rays reflected by an object do not converge. Convergence is wholly contrived by the eye. Again, it is necessary that anything we see should

be distant from the eye; an object which touches the eye is invisible; and the size of the image varies with the distance; accordingly we never perceive the real magnitude of anything we see. And yet we conceive magnitudes to be real and invariable.

Secondly, in order that we may see anything it must be illuminated. The light which illuminates an object and renders it visible is no part of the object. Light is force and therefore must modify the momentum of the object illuminated. It is true that in ordinary sense objects the modification due to the force of light is negligible, but in the objects with which physics is concerned the momentum of the objects—atoms, electrons, radiation,—is of the same order as that of light.

Thirdly, when we turn from the microscopic to the macroscopic objects of science the same principle is illustrated. Mankind from the beginning of history has looked out on the starry firmament and observed that "one star differs from another in glory." In the seventeenth century the invention of the telescope led to the discovery that our earth is one of innumerable masses of matter moving in an apparently limitless empty extension or space. The inventors of the telescope thought that theoretically there was no limit to the aid which it would ultimately offer to the extension of vision. It is not the telescope, however, which has or could have given us the new cosmogony. No sort of aided vision would have revealed the galactic systems which the modern astronomer studies. Our conception of the stellar systems, in which distances are reckoned in light-years and intervals in parsecs, is presented to us indeed in sense imagery, as the view which would appear to us were our spatio-temporal dimensions magnified some millions of millions of degrees, but the actual conception itself of the universe is not a description of any sense-perceived objects; it is a purely constructive mathematical work, a mental speculation. The proof of this is that the materiality of the stellar universe and the materiality of the earth are conceived in quantitative terms only. All reality is reduced ultimately to simple unit positive and negative charges of electricity. In fact the ideal of science is to replace the infinite qualitative variability of perception with some simple qualityless unit which can be dealt with purely quantitatively.

It should be clear, therefore, that the concepts of science are not reached by extending the range of sense perception. Yet scientific work is the search for truth, undertaken purely with the intention of discovering real relations, of laying bare as far as possible the reality behind the perceptual appearance. In science we do not become, as the epistemologist says, *acquainted* with reality, and we do not *describe* it. We cannot describe what we cannot apprehend. In science we are engaged in a work of extrapolation. Science, in fact, is what Kant called critical. It asks what it is which makes the perceived world possible. To answer such an inquiry it is clear that it is useless to point to anything in the natural world as having privilege or priority, such as the early Greek nature philosophers tried to find in water, air, number. There is no primordial substance in the natural world. The scientific conception of the universe is a schematism in the Kantian meaning. It is attained neither by perceptual insight, nor by introspection, nor by an interpolation of mind into nature; it is a pure work of intellectual construction, an extrapolation.

This scientific extrapolation is neither arbitrary nor fanciful. It arises in a necessity of our intellectual nature which demands a sufficient reason of all that is or happens. It is the attempt to satisfy our demand to know real relations, the conditions under which we exercise our individual activity and the extent to which we can bring external nature under our control. These real relations have universal validity just because they are not perceptual but conceptual. The reals with which physics deals are not the subjects of conscious experience, nor the objective content of experience, they are concepts of the unperceived and imperceptible causes of objective experience. These concepts are fictions in the literal meaning of the word, that is, they are constructive schemes, diagrammatic in intention. But because they are fictions they are not invalid. Their appeal is not to imagination but to reason. We are as it were outside the concert hall and unable to penetrate it, we hear the symphony which is being played, and we set ourselves the task of reconstructing the various instruments which constitute the orchestra.

V. THE IDEAL RELATIONS OF THE REALS.

According to our metaphysical theory there are reals in the unequivocal meaning of reality and we know these reals. This knowledge of reals is not mediated by real relations but entirely by the relations we call ideal. As soon as the nature of the reals is understood it is seen that they cannot stand in real relations to one another. The reals are not things; they are not perceived objects open to inspection; they are active forces and force can only be defined in terms of possibility, not in terms of actuality. An acorn, if we take it as an example of a real, cannot be defined by its actual form or its actual content. The most exhaustive chemical and physical analysis would leave out of account the essence of its reality, the force. Physics and chemistry deal with its real relations in terms of the objective extrapolation which these sciences represent; biology deals with it as a stage in the development of a living organism; for all these sciences the acorn is a phenomenon, they tell us nothing of its reality. The real acorn is the acorn as it exists for itself, and this existence is purely ideal, that is, its ideality is its reality. The particular acorn may be crushed under the foot, or eaten by swine, but its reality is what it is for itself, not what it is for another. Its reality is not its actuality at any moment but its potentiality at every moment, the potentiality of the oak tree which may never be actualized.

Each of us possesses in the activity of his own consciousness not only the archetype of an individual real but also the immediate knowledge of that reality. This does not mean that in self-knowledge we introspect an object of knowledge, but that in the activity of perceiving we have knowledge of real activity. Knowledge of the self as an individual activity is not immediate or intuitive, it is mediated by the knowledge of other individuals. The relations of individuals to one another are purely ideal. The individuals are real and our knowledge of them is not scientific extrapolation and it is not mediated by real relations. This becomes clear if we consider human intercourse. Intercourse depends absolutely on ideal relations between individuals. Take, for example, speech. This depends on the significant

expression of one individual evoking responsive significant expression in another. There is no interaction of one on another in the mechanist meaning of interaction. There is no exchange of matter or form. I cannot think my thoughts into another or make another perceive my perceptions. When another person understands my meaning it is by thinking his own thoughts and perceiving his own perceptions. Images and ideas are not real in their own right, exchanged between minds on the principle of battledore and shuttlecock. Even those who believe in telepathy must admit that images and ideas are the active production of the individual mind which owns them. The human world consists altogether of ideal relations. This is recognized by realist and idealist alike. At this point, however, there is a parting of the ways. It brings me to the final problem with which I propose to deal, the problem of the concept of nature as a closed system.

VI. THE PHENOMENON BENE FUNDATUM.

Ideal relations are subjective. They subsist only between active subjects of experience. It seems, however, that to be real in the full meaning of efficiency these ideal relations must have an objective reference. Consequently we assume for them a material substratum and a formal system of reference in absolute space-time. This makes the independence of an abstract objective reality appear an immediate intuitive certainty. Is this abstract objective reality, this 'nature closed to mind,' a rational concept? Or is it illusion, essentially irrational, though justifiable perhaps by its practical utility?

Berkeley was the first to point out, with the clear and irresistible argument of self-evidence, that the object of the mind when it perceives is perception and not something unperceived and imperceptible, assumed to exist independently of the perceiver. Modern science accepts this position. The real objects which give its subject-matter to physics are neither perceived nor perceptible; though conceived as the cause of perceptions the objects of physics are frankly an extrapolation. Physics is primarily mathematical, handicapped rather than assisted by its dependence on sense imagery. What then is the driving force

which imposes on science this work of extrapolation? Whence arises the idea that perception is conditioned and that the conditions of perception are located on its outer or objective side? Why are we so much more confident in the truth of science when matter rather than spirit is in question? Hitherto the answer has come from philosophy and has been mainly a speculation; today the answer comes from science itself and with mathematical precision. Matter is a phenomenon, and no more than a phenomenon, but a phenomenon well-founded, for its foundations are in the actual nature of perception, that is, of conscious activity. A condition of the activity of a conscious individual, a human being, for example, is the coördination of his world, the sphere of his activity, the range of his efficient action. He can only plan actions in a stable and enduring world. How then can he derive stability and endurance from perception which is variable, and changing continuously? Perception itself will not yield it. The phenomena he observes, his successive perceptions, have no order in themselves, the order must be imparted to them. Order is not given by nature, it is imposed by mind on nature. The new physics starts from this standpoint. The universe of modern physics consists of events, coördinated by the mathematical schema of a four-dimensional continuum. For every observer there are conditions of observation. The observer coördinates events by measuring the distances and intervals which separate them. This coördination requires reference to an immobile system and the attachment of the observer to that system. Man, for example, measures distances and intervals by reference to the earth as he experiences it, that is, to the earth at rest in regard to the moving systems in the firmament. He can indeed choose any other system of reference and measure relatively to it the movement of the earth itself, but only on condition that for him while observing, the system he has chosen is at rest relatively to the earth and all other moving systems. This is the basis of the principle of relativity which declares that the phenomena of nature are the same for all observers in systems of reference moving relatively to one another.

The biological counterpart of the physical theory is equally significant. We have come to know that the immobility of the

earth is an illusion; the earth is rotating and our position on it, relatively to the universe, is completely reversed daily; the earth is speeding through space at a calculable velocity; also we know that we live on the floor of an atmospheric ocean which is weighing upon us with a force of about fifteen pounds to the square inch; we know that we hold ourselves erect by muscular force exerted against the force of gravity; we know that the images of visual objects are reversed on the retina; and yet of all these things and much besides, which we have been able to discover by reasoning, we are naturally unconscious and by our nature incapable of being conscious. We cannot feel our translation through space on the moving earth; we cannot see the images which are actually projected on the retina; we cannot feel the muscular strain which holds our heads erect; evolution has created in us psychical dispositions, and in determining the range and mode of our organic functioning has determined in us also the objective aspect which the world shall assume to our perception.

The old materialism is gone. Science has outgrown it. Whether it will return in some new form we cannot say, but certainly we can point to nothing in modern physics or in biology which seems to be heralding its approach.

VII. SCIENTIFIC IDEALISM.

In conclusion let us consider in what definite meaning of the terms real and ideal we are now able to characterize science as idealistic.

Scientific realism has always meant that real relations, that is relations which define position in space and time, the relations of right and left, above and below, before and after, greater and less, fast and slow, are objective and absolute, and that science so far as it is a subjective activity of apprehension is discovery. The fundamental position of scientific realism is that real relations are the relations between real objects in the physical world, from which it follows that these real objects exist independently and on their own account. Ideal relations on the other hand are for scientific realism purely representative. They may be percepts or concepts but they are only subjective modes of

apprehension. The conditions of observation, all important for the understanding of ideal representation, are thought of as in no way whatever affecting the objective reality observed. The truth of science for the scientific realist is the correspondence of ideal representation with objective fact. Since knowledge is ideal representation reality is posited by it, but the essence of scientific realism is its insistence on the absoluteness and independence of the objective world.

This scientific realism broke down with the adoption by science of the principle of relativity. This principle has called for an entirely new interpretation of physical reality. The phenomena which we observe are not static things revealing their nature in their relations. We observe not things but events, and events are entirely constituted of relations. Science therefore is not an observation of things, it is a coördination of events. The coördination of events is the measuring of distances and intervals and this measuring can only be from individual standpoints and chosen frames of reference. Coördination must therefore take into account the observer and the conditions of observation. It is the recognition of this principle which has changed the modern scientific conception of the physical world from a realistic to an idealistic concept.

In philosophy it is usual to distinguish two forms of idealism. There is the subjective idealism of which Berkeley's doctrine that the real object of knowledge is the perception and that the perception exists in the mind and not outside it, is the best known example; and there is the transcendental idealism, the example of which is Kant's doctrine that all knowledge is of phenomena and that the mysterious reals or things-in-themselves are unknowable. It is not to either of these doctrines that we refer when we characterize modern science as idealistic. There is yet a third form of philosophical idealism. It is the metaphysical theory of Leibniz that the reals are active individual forces whose activity consists in perception and who accordingly each mirror the universe from an individual standpoint. It is to this type of idealism that modern science approximates.

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THE ETHICAL PROBLEM.¹

TO communicate thought as it lies in the mind of the thinker to other minds is proverbially difficult. The difficulty is increased if the ideas to be communicated are heterodox in the sense of diverging from lines commonly followed. In that case, the person who delivers an address on a philosophical subject is likely to meet with an attitude of suspicion if not of active hostility on the part of his hearers. The thought he strives to present is an unwelcome guest, like some belated traveler who on arriving at an inn is told that the rooms are already occupied, and is admitted reluctantly if at all.

Among philosophers, however, one ought to be able to count on a more generous hospitality. At any rate I plead that a chamber in your minds be assigned to the guest thought I am introducing to you, that this chamber be cleared for the time being of any adverse occupants that may be in possession of it, and more especially I earnestly request that the argument I am presenting be considered *en bloc*, in all its length and breadth, and that your salutary criticism be deferred until it has thus been provisionally received.

To prevent possible misunderstanding of my purpose I state the Ethical Problem, as I see it, to be that of reconciling the spiritual equality of man with the inequalities that exist in human society. Further, that a 'solution' of the problem does not mean a panacea or a recipe, by which an ideal state of society shall be created out of hand, but a line of development along which society may gradually advance in the direction of the Ideal.

¹ The President's Address to the Eastern Division of the American Philosophical Association, December 29, 1928, at Philadelphia.

But to proceed, Ethics has been the Cinderella of the sciences. Ethics has been the pensioner of the other sciences, borrowing its first principles from them—from logic, for instance, I refer to the representations of the ethical institutions of mankind as footsteps of the Absolute, vestigia of its march through time; from physics, I refer to the Kantian principle of bare universality and necessity abstracted by him from the determinate uniformities with which physics deals, and then imposed on the contingencies of human intercourse, the pale skeleton leaves, as it were, of the wreath of the sciences being offered by him to ethics as a crown. Ethics has borrowed in more recent times from biology, from psychology, not to speak of its ancient borrowings from theology or divine revelation. It always was the poor relation,—the place assigned to it was a corner in the banquet hall where the other disciplines were feasting. The ethical department of philosophy was treated as an adjunct, a corollary, of theories which had their foundation in facts and reflections distinctive of other fields of knowledge.

And yet the field of human conduct with which ethics is concerned discloses itself on careful examination as sharply distinctive, peculiar, and requiring to be investigated on its own ground, before theories are erected upon it, and especially before speculations that have arisen in other fields are superinduced upon it. Undoubtedly the mind cannot be departmentalized, the fragments of truth discovered in one field must in the long run cohere with those found elsewhere. In the long run, yes, but in the meantime each of the great human interests, science, art and ethics, should be studied in its own precinct before a general synthesis is attempted.

My first point, therefore, concerns the question: what really are the distinctive features that characterize ethical experience and in so far separate it from other types of experience? Of these features, I omit conscience, freewill and the like, and confine myself to those that bear upon my subject as announced—The Ethical Problem.

Ethics is concerned with the regulation of human relationships. The principles which have governed the regulation have been in a large way either naturalistic or spiritualistic—blendings of the two being, of course, included. The common source of both principles is a tendency in man to regard some kind of excellence as peculiar

to man, as most honorable to man, as expressive of what is most admirable in man. When this excellence is apprehended in some natural quality, the system of human relationships founded on it becomes what I shall call a vertical system, in contrast to the horizontal system which is founded on a spiritual excellence. I shall explain the two terms as I proceed.

The vertical system is characterized by a hierarchical arrangement of men. Those who possess the cherished excellence in a pre-eminent degree occupy the highest rank; those who manifest it in a lesser degree are subordinated; those in whom it does not seem present at all are at the bottom of the scale, are practically considered as nonhuman or slaves.

In Egypt, in Persia, the supreme excellence has been regarded as irresistible power, power exclusively vested in a single human being, the king, since he is deemed the incarnation or the offspring of the sun or of some other god whose chief attribute is supreme power. Hence the vertical system has only one person at its apex, all others being subject to him.

In the sacerdotal system the priests have occupied the highest place, because by their prayers and spells and incantations they control the invisible agencies.

In feudalism the military class ranks highest, since the courage, the skill, even the hauteur of the aristocrats, is the excellence most admired. In Plato's *Republic* the philosophers occupy the highest rank,—those beholders of the sublime world of ideas who descend so reluctantly into the cave, the exercise of the intellectual faculty being pronounced by the intellectualists the highest excellence of man. And as a modern parallel to Plato's construction, Ernest Renan in his *Caliban* assigns to the scientists and artists the pre-eminent rank, and would have the vulgar masses subservient to them. Finally, in our own American plan of human relationship, governed as it is largely by economic considerations (and no one will deny that it is largely governed by them), initiative in the effort to attain material wealth and prestige is regarded as the outstanding excellent quality in men. And wealth and prestige being the measure of success, those who are devoid of or deficient in the kind of initiative described are asked to be content with lower places in the social scale. Needless to say that the picture I have

presented requires many qualifications. Human conduct is never determined by a single principle, there are numerous currents and cross-currents from other sources that meet and conflict. What I have attempted is to give a rough account of the bare naturalistic point of view, as isolated from other impinging forces, and as one of the large predominant influences that have been operating in human affairs. That it has prevailed, that it still prevails, there can be no question. The contempt frequently expressed for the colored races, the ruthlessness with which backward peoples have been subjected to the avarice of the so-called more civilized, the persistence even of slavery in forms thinly disguised, bear incontrovertible testimony to what is here said. So long as the vertical system obtains what I have called the ethical problem does not arise. It rises contemporaneously with the spiritual system.

A vertical system can also be constructed, however, on the basis of a kind of transcendental mysticism. In this the relation considered is not that of one finite being to other finite beings, but that of the finite to the Infinite. And a hierarchical arrangement is in this case furnished by illicitly introducing the notions of approximation and participation. A finite being is said to be higher in the scale if he approaches nearer to the infinite, or he is regarded (*cf.*, Dante in the *Paradiso*) as having a capacity to receive and contain more or less of the infinite. But both these notions are images drawn from within finite experience and cannot properly be used with respect to the relation of the finite to the infinite. Approximation is a spatial image, connoting the lessening of distance, and participation connotes capacity or volume. But as the infinite does not exist in space, nearness or farness are meaningless with regard to it. When a finite being is said to approach the infinite, he is as far from it as the most remote of his fellows. And in like manner the notion of participation or capacity is irrelevant. The neo-Platonists speak of perfection as overflowing its borders and pouring into the finite, where it is received according to the greater or lesser capacity of the finite to contain it. But perfection does not overflow its borders, it is self-enclosed. Systems based on the relation of the finite to the infinite, though sometimes called spiritual, as neo-Platonism, Brahminism, the Kaballah with its Sephiroth, for the reason stated are rather to be classed as mixed systems; if spiritual at all they are alloyed with naturalism.

The genuinely spiritual system has this for its hallmark. It discards the hierarchical arrangement. It sees the distinctive excellence of human nature not in any of the natural faculties, not even in the intellect, or in the æsthetic faculty, but in something in man which is not a product of nature. And because this excellence, actual or potential, exists irrespective of the place assigned to man on the vertical scale, therefore actually or potentially it is affirmed to exist alike in all men. And on this account I call the spiritual plan a horizontal plan, all men being spiritually on the same plane.

The spiritual ideal began its course as a conscious force in human history in Hebraism and Christianity. What in the Hebrew and Christian teachings is meant by the spiritual part? In the Hebrew account the spiritual part is the holy thing in man, *holy* meaning that awe-inspiring thing which may not be violated, and which, as being present in one's fellows, furnishes the ground on which the duty of respecting their rights, or justice, is based, injustice being a violation of that which ought to be held inviolable. In the Christian account the spiritual part is the pure thing in man, that which draws away from adulterating mixture, from whatsoever is defiling, that which would pass through the world unstained of the world.

It is true the universalism of both religions had its limitations. In the Hebrew religion priority was assigned to the elect, to the people chosen because they were supposed to be choice, that is to say more deeply penetrated than others by spiritual consciousness, more disposed toward obedience to that categorical imperative that issued from the Eternal, that thrust upon the human will which impels it toward conformity with the eternal will.

In Christianity the universalism was limited to fellow-believers, that is, to those in whom the spark of the Infinite had not utterly died out, and was still capable of being stirred into flame,—the believers being those who, when the Infinite appeared in human form were still capable of being attracted to it like the iron filings to a magnet.

Here I have reached the point where it is possible to define the ethical problem. It is that of reconciling the vertical and the horizontal systems, of harmonizing the spiritual equality of men

with those inequalities that exist under every social arrangement which has yet been tried, even within the Hebrew and Christian limitations of universalism. Even within that narrowed circumscription the ethical problem obtains, stands out in all its vast dimensions, with all its perplexities. For to those who take the spiritual view at all events ethics means the expression of the spiritual equality in the actual facts of life.

To the question of how to reconcile the two systems, the inequalities and the equality, there may be the following answers: the one to force equality on the actually existing inequalities; the second to abolish human society with all its inequalities, the third a compromise, and lastly to work out spiritual equality not despite of but with the aid of existing inequalities. The first method was attempted by the Hebrew legislator in the ordinance of the Jubilee, which perhaps was never carried out in practice. It involved the idea of the perpetual nonalienation of landed property of all the families in Israel, a device suited, if at all, to an agricultural community, at a stage in which industrial development has not yet taken place.

The second method, the abolition of human society, was envisaged in the early apocalyptic period of Christianity. The fashion of this world was to pass away utterly, and another order purely spiritual was to take its place.

The method of compromise followed. All the social inequalities were left intact—that of rulers and subjects, that of barons and vassals with serfage at the base. The impregnable fortress of feudalism, indeed, was left standing despite Christian teaching, until ruined by natural forces, such as gunpowder and the employment of mercenaries. Militarism, after having been temporarily harnessed to the church ideal by the formation of the order of Templars and the others, was left to follow its destructive course. The distinctions of wealth and poverty were even sanctioned with weak counsels of perfection as to the so-called stewardship of wealth. And what became of the spiritual equality of man? It was postponed to the other world, *ad kalendas Graecas*.

The attempt to harmonize the two systems, the horizontal and the vertical, as undertaken by those who held to the spiritual view, therefore, had so far failed.

Then there came a new turn. Socialism entered on the scene, acquiring in Marxism its most precise expression. The notion of man's relation to the infinite was brushed aside as mere ideology. The existence in all men of some surprising excellence irrespective of natural differences, serving as the foundation of the claim for equality, was dismissed as a fable. But at the same time the claim for equality itself was sharply accentuated as never before. On what basis equality according to socialism? According to socialism the demand for equality is based on natural desire, on the desire of everyone for the necessities, for pleasure, for the things that not only make existence endurable but joyous, the intellectual and æsthetic satisfactions included. In the past the multitude was kept down. The power of the privileged classes has weakened, the majority rise up and insist on having what has hitherto been denied them,—the mass realizing also for the first time the irresistible force that is lodged in it when in action. The class war was devised in order to sharpen desire and to bring it to the point of action by sharpening antagonisms. Now I am not discussing an economic problem but an ethical problem. I am convinced that despite the Marxian materialism and the economic interpretation of history, the demand for equality, even as voiced by the strictest socialistic school, has in it an unconscious echo of the spiritual nature and its claim to be honored. But, however that may be, and aside from all the questions that touch the practicability of socialism, of the sacrifice, for instance, of personal liberty that may be involved, the question which I ask of socialism is whether it solves the problem of harmonizing the horizontal and the vertical schemes, of expressing the equality of all human beings in the actual facts of life, and I cannot convince myself that it does. Assuming that it had completely succeeded, it would then have abolished one kind of inequality, the inequality of riches, but would have left untouched the ineradicable native differences—in ability, in mental range—that subsist among men. It is not possible really to abolish such differences as that of sex, although there is at present a tendency to minimize that difference. It is not possible by any pedagogical device to give to an unmusical person, eminent as he may be in his field, the ability to appreciate a fine piece of music. It is not possible to make a mathematical

physicist of the scholars in our schools whom it is a mercy to exempt from mathematical teaching after the eighth grade. And when the external distinctions disappear, the intrinsic differences will probably be felt more keenly than they are now. By standardizing external differences one cannot standardize brains. There will continue to be those who are competent to perform the inferior functions, inferior in the sense of requiring a comparatively lesser degree of natural endowment, and on the other hand those who are competent to perform the superior functions. I use the terms superior and inferior with reference to the vertical scale, and the problem as I see it can now be explicitly defined as that of vindicating the spiritual equality of those who perform the lesser functions with those who perform superior functions.

How far then have we traveled? Where have we arrived? The spokesmen of the spiritual view have failed to solve the problem, though they have left in the world the precious consciousness of the problem, and among thousands of noble natures the anxious wish to solve it. Socialism on its part in my view as stated must also fail.

The fact that men as a rule do not complain that they are less gifted than others, and therefore have a smaller measure, if any, of the satisfactions that depend on those gifts, is due partly to habit, partly to their thinking of themselves as only products of nature, and of their gifts as accidents of nature, the more or less of which it is not in the range of human power to greatly alter.

It remains therefore for those who hold to the spiritual view to consider whether the received conception itself of the spiritual part of man may not be at fault, whether it may not need to be revised in order that the attempt to advance the solution of the problem shall meet with a brighter hope of success. A revision is necessary, I submit, along the following lines. The spiritual part has been defined in a general way as the consciousness in man of his kinship with the infinite, of his striving towards union with the Infinite. But the Infinite (I am speaking, of course, of the ethical, and not the mathematical Infinite), has thus far been envisaged exclusively as the One, as the Supreme One, as the enshrinement of unity, of ultimate unity. This concept corresponds to the urge in man to unify himself, to escape from the cross-currents of his

inner life, the distractions that drive him in different directions, the manifold unconnected interests, as well as to escape from the downward pull of the lower appetites. The Supreme One is the ideal focus in which the individual seeks his own integrality, his self-realization in that sense. But unity is only one pole of an adequate spiritual ideal. Plurality must be acknowledged, as it has not hitherto adequately been, as on a par with unity. And plurality, not as the indiscriminate many opposed to the One, but rather as a qualitatively differentiated manifold. Neither Monism nor Pluralism each taken by itself can avail. The manifold cannot be derived from the One. If we think strictly, A can never be non-A. The One can never by any logical sleight of hand pass into or lapse into difference. The device of pantheism whereby the differentiae of the universe are presented as so many masks of the One does not account for the existence of the masks, and at the same time leaves the differentiae without honor, centers reality exclusively in the one face behind the mask. Nor yet can unity be extracted from the differences. The concepts of unity and plurality, therefore, as I have elsewhere put it, should be considered as two blades of a pair of shears to be used jointly, the emphasis being on the jointness, the One and the Many two inseparable aspects of the same object.

The spiritual ideal is the ideal of the ultimate reality in things. If then this ideal be so revised that the infinite with which man feels kinship is not an infinite One, but an infinite society of reals, of which each is differentiated from the rest, irreducibly unique, then man in the spiritual part of him is to be postulated as one of these unique reals, one of an infinite spiritual company, one of the eternal entities of which each is indispensable in order to establish the plenitude, the totality of being.

From the monistic point of view man is spiritually superfluous, an imperfect image of the Supreme One that sums up all perfection, or a soul to be saved, that is, added to the celestial environment of the perfect being. From the point of view just described, the spiritual, the eternal part of man is a component of the infinite society, has its station within the circle of godhead, if I may use this term in a socialized sense, not a creature of God, but a constituent of God. He has as such an absolute value beyond human

society, and only on this account has he objective value within human society.

I must here introduce a few remarks as to the signification of the term objective value. Value belongs to that which satisfies a want. Water has value to the thirsty, a luscious fruit has value to him who tastes its juice. Man has value for himself in so far as his organs, his faculties, are means of satisfying his wants. Men have value for one another because loneliness is painful, and because the services of others satisfy wants. Objective values might therefore be apparently distinguished from subjective as appertaining to public as distinct from private sources of satisfaction, to those which are appreciated by the generality of men as distinct from idiosyncrasies (or singularities) of appreciation by individuals.

But this conception of objective value would leave uncovered that spiritual excellence of man which is the cornerstone of the spiritual system. There may be a difference in degree, there would not be in kind between such general values as food, tools, musical instruments, the implements of war, and on the other hand the peculiar ethical value which is ascribed to man. The notion of objective value as identical with public value is inadequate. It does not suffice to prohibit the killing of our fellowmen or the oppression of our fellows, except on far-fetched grounds of sympathy, and sympathy itself is a natural disposition which exists in some and is weak in others. In order, therefore, to rescue the spiritual pre-eminence of man, Kant declared that man has objective value in the sense that he is an end *per se*, that he has worth on his own account, that he is never to be treated merely as a means to the ends of others. He is a noumenon, says Kant, that appears in the phenomenal world. All those values which the empirical theories of ethics deal with are transient values, suited to a transient organism, whether to the individual or to the human race—which is also a transient phenomenon in this vast world, a procession of phantoms that pass across the scene and disappear. Objective value means value that is not transient, value ascribed to man as an eternal being (value rooted in the noumenal reality of things).

But there is a fatal gap in Kant's definition. He projects his

noumena, as it were, into the void. He declares them to be objects, he does not assure to these transcendental objects value. For value implies enjoyment by others, satisfying the wants of others, and Kant expressly denies that there can be any spiritual service to others. Every individual must achieve his ethical character, he thinks, by imparting to his acts the dignity to be derived from their being performed as exemplifications of the law of universality and necessity. There can be no ethical influence of a man upon his fellows. Hence in practice the categorical imperative comes to mean respect for certain fundamental rights, as of life, property and reputation, and uniformity of behavior in all those relations in which uniform conduct is feasible.

Kant declares that men are not to be treated merely as means to others' ends, but the word 'merely' is the Achilles' heel of the definition. True, not merely, not without respect for fundamental rights, but nevertheless, it is obvious that men are means to each other's ends, must render services to each other (the doctor, for instance, and the jurist, to choose at random), and the principle on which these unlike services are to be regulated Kant fails to explain, or rather, when pushed to the wall, he becomes inconsistent, falling back on the happiness principle, which is alien to his system.

Can the spiritual ideal of unified plurality come to our aid? Can it bear the crucial test of reconciling the horizontal and the vertical systems? And as a preliminary step, can it reconcile the notions of object and value?

Man is spiritually a monad, one of the ultimate, irreducible reals in the infinite company of reals,—is a monad, not windowless, like that of Leibniz, but with windows open on every side, with channels of influence that run in every direction. He is an object because indispensable in the totality. His essence (or substance) is uncognizable but manifested in the specific energy that is expended by him.

The system of the infinite life is dynamic, not static. The diverse specific energies of his spiritual fellows impinging upon a man evoke from him a specific energy of his own, which in turn emanates from him towards every quarter. The impact of all the rest establishes incessantly the uniqueness of each, while each

contributes from his station in the infinite system to establish the multiform uniquenesses of the rest.

The joint use of plurality and unity, the concept or ideal of unified plurality applied to the infinite society of spiritual beings, is thinkable in no other way. If the integrality of the self, the *per se* character, is to be preserved, and on the other hand if there is to be relationship, value for others, this combination cannot be apprehended by the mind otherwise than as an eternally reciprocal intercourse, a ceaseless, non-temporal action and reaction, flux and reflux of endless diverse energies, the interactions constituting the unity of the whole.

In the vertical or natural arrangement, the differences, though persistent, are transient, since the human race regarded as a product of nature is transient. The point of emphasis in the view I am presenting is that the differences in the spiritual natures are absolute, since difference is a factor as indispensable in the constitution of reality as oneness. The differences are founded in the nature of things, and their coherence into a system is achieved by establishing a genuinely organic connection between them—the idea of organism being that of a system of parts or members, of functions and functionaries, of which each one is indispensable to the whole, each serving to promote the functions of the rest, an idea as fundamental in our mental constitution as that of causality, though of course not to be found realized in what in a degraded sense are commonly called organisms,—animals or the quasi-social organisms of human society. The idea of organism is a spiritual idea and in that sense only I use the word 'organic.'²

Now the organic ideal as I shall now call it has direct bearings upon the ethical problem which I am discussing. One of its immediate corollaries is that in considering the so-called horizontal arrangement we must substitute equivalence for equality—equal value of functions, inasmuch as each function and each functionary is indispensable, instead of equality in the sense of sameness.

Our metaphysical constructions are not spiritually estimable

² The constant degradation of words appropriate to lofty ideas by vulgar applications is also seen in the now common use of 'organization' for the merely mechanical reglementation of masses, as in the case of 'labor organizations' and the like.

unless they are useful, unless they serve to guide men in straightening out their twisted relations to each other and forming human society on a nobler model. There is therefore one consequence of the revision of the spiritual ideal which I have here sketched that I should like to point out to your particular attention. It is this: that the morality of groups becomes an object of spiritual construction as it has not been before,—the morality of the individual with reference to his group and the morality of groups in their relations to each other.

Owing to the predilection for unity, and the sort of shying at plurality as a disturbing, unwelcome aspect, a predilection which runs through the principal philosophies and religions of the past (the accent being always on the One), it became a habit to think of ethical conduct chiefly as the conduct of one to one, of individual to individual; but the conflict of the social groups, the wars of people with people, and more recently the mutual seditions of the sexes, loudly proclaim the urgency of developing a morality of groups. The organic ideal in its spiritual sense, I affirm, is competent to create or produce a morality of groups. But how is this to be understood? What is the relation between a group such as the family, the vocation, etc., and the spiritual organic ideal? The group is the empirical substratum of the organic ideal. It is the soil in which the ideal gets a footing. It is the matrix, the *ekmageion*, in which the organic ideal itself develops. The spiritual, organic ideal does not descend from above, it is worked out from beneath, from within, the experience of men in human society.

Just as the ideal of perfection as the Supreme One, the Eternal God ideal, had its footing, its empirical substratum, in the individual's urge to unify his own self, to attain to integrality, so the social ideal of perfection has its actual footing in the social groups.

The groups already existing fulfill to a very limited extent the conditions described by the organic ideal. There are the differences of sex, of types of mentality, of aptitudes, and in accordance with these differences the members of the group are required to perform different functions. Every such group already is a system of mutual interdependency. The group is already as it were partially organized, but most imperfectly, with deep maladjust-

ments, with the clashing of minds and wills. To apply the spiritual rule then means to go on organizing the group, and this again means to so influence the individuals that each shall present to himself a picture of how the fellow members of his group might perform their respective functions in the best possible way, surrounding himself, as it were, with spiritual images, ideal images of his fellow functionaries, and then so taking hold of himself, changing himself, transforming himself, as to perform his own function in such fashion as to call out the best performance by each of those others. To illustrate, I take the family. The family is at present being disintegrated by the one to one formula, the equality notion. Apply instead the notion of equivalence, as rooted in indispensable functions. The family is not an aggregate, but a group. It is the nuclear group that expands into the others. The relation between the two sexes is not a side by side relation, as in friendship or comradeship. Friendship undoubtedly there should be between the spouses, and the joyous sense of comradeship. But conjugality is more than friendship and comradeship. It is a union of two lives from which issue other lives, those other lives representing the future generations. The future generations are present in the family in the persons of the offspring. The conjugal relation is orientated towards the more perfect, the less imperfect, life of humanity that is to be. But in order that the union of spouses may lead to this thrust forward in the lives of their offspring, their union must be a spiritual union—and spiritual implies, as I have said, the formation in the mind of each partner of an image of the other as performing his or her function in the most excellent way—the most excellent being that which provokes a correlative unlike excellence in the other partner.

The question what this excellence is (for instance, in woman, what the specific function is to be exercised as regards the partner and the offspring) is no longer a merely ethical question. The eternal real, the unique monad, which is the spiritual part of the woman as of the man, is without cognizable content. What is knowable about it is the plan of relations in which it is included, its generative relations. To apply this ideal plan in practical conduct the notion of a spiritual real must receive empirical content. The spiritual character has for the material in which it seeks to

realize itself an empirical character. The image of the ideal woman is that of the woman as she is actually known, placed in such relations with members of the family group as to generate the ideal performance of diverse functions in each of them.

There is therefore in regard to the ethical scheme which I am sketching a great demand for empirical research, for the accumulation of new data, for comprehensive observation and comparison, for keener insights, for change. The ethical scheme which I am submitting does not propose a simple rule like the Kantian, which once and for all settles the proprieties of moral conduct. It does not impose a hard and fast moral code from which nothing can be subtracted, to which nothing can be added. It does not set up a single ideal personality in which ethical perfection has been achieved once and for all. It is endlessly flexible, capable of adaptation to altered conditions. Only the plan of relationships is offered as a pattern. And even that pattern is bound to become more definite, richer, as the process of filling it with empirical content proceeds.

Have we any light thus far on that superlative thing which we call the excellence of woman, the genuine womanliness, which it is the work of her partner to educe in her, and which supplies our knowledge of the function which she is to exercise on the man and on the offspring? We must seek it from history, from literature, from psychology, from personal, intimate contact.

Woman has not been merely the slave of man in the past; she has been sibyl, prophetess, priestess, oracular Pythia, goddess, Mother of the Gods in Asia Minor, Isis in Egypt, the Queen of Heaven, the Mary full of grace in mediæval Europe. Of signal importance also for the formation of the ideal of woman's most excellent quality are the ideals of her as consecrated in the arts, of which images there is a great gallery—the women of Homer, the women of the Greek tragedies, the sculptured shapes of feminine divinities, Dante's Beatrice, Goethe's Makarie. And ever there has been a correlative ideal image formed of man.

The relation I am signalizing is the paradigm of the spiritual relations in all the wider groups—the vocation, the state, the international society.—And let me here add this note that the relation is not one of complementation, it is very sharply to be distin-

guished from complementation. Complementation is an empirical notion, that which I am emphasizing is a spiritual notion. Complementation implies that a certain quality is missing in one, and may be supplied by assimilating that quality, appropriating that quality from another. And this process may also be conceived of as mutual, the negatives on either side being filled up by the positives on the other.

But the spiritual part of man, the essence in him, the differentiated real, the eternal monad, is without defect. There is no void in it to be filled up, no alien energy to be assimilated. It is integral, a solid, as it were, and the effect exercised by its fellow reals upon it is not to complement it, but to establish its uniqueness, to evoke from it its distinctive energy, to make it more absolutely *sui generis*, if the paradoxical expression be allowed, than it could be in isolation.

The eternal world may thus be said to present the spectacle of a meadow on which bloom an endless variety of plants and flowers, or better, because this would be a static picture, to a galaxy in which the distinctively colored light of each star is kindled by the diverse rays of the innumerable host of which it is one.

Or again the efforts of human society to organize itself after the spiritual pattern may be compared to a company of serious artists engaged in the performance of a play. There is no principal actor. There are major and minor rôles, but the least important is equivalent to the most important, in virtue of the circumstance that he who performs it is absorbed in searching out the best possible performance of those other even superior rôles, and seeks to adapt his own performance so as to facilitate the manifestation of utmost excellence in the rest. Hamlet says: "The play's the thing"; I should say here, the interplay's the thing.

The same point of view is applicable to the larger groups, to industry, for instance, where the variety of natural gifts, as of the scientists employed in the laboratories connected with the plants, the artists connected with the textile industry, executives, inventors, mechanics, etc., furnish the basis for the distribution of functions or rôles. And the ideal evolution of industry would have for its aim not merely or chiefly the contribution of a certain

tangible good to the use of the community, but the ideal aim would be the organization itself of the industrial group, of the personalities that are members of it, the most inferior functionary being on a par with the superior by consciously participating in the task of organization. The transformation of the producers through their relations to one another, and not the product, would be the ultimate prizeworthy aim.

Again, when mankind shall be sufficiently far advanced to consider the different nations of the earth as depositories of special gifts, as functionaries, then the foundation of a society of nations will be securely laid.

A few additional statements need to be made in order to complete this sketch. There is in finite man a certain movement toward the infinite. There is a striving beyond the bounds of the finite in the direction of the infinite, pronounced in some, obscurely present in the larger number. Even in science this striving is the animating impulse. The greatest scientists are those who never rest on what has been achieved. As one said recently—"We have reached only the shore, the great ocean lies beyond us." Infinite knowledge is the aim. In art it is the same, infinite beauty is the aim. But in Ethics the perfect society, the perfect organization of personalities, is the ideal aim.

Next, the morality of the groups in their relation to one another is that of the narrower group widening into the larger, the spiritual training gained in the former being the condition of fruitful experience in the next succeeding group. In the narrowest group, the relations are most intimate; in the wider groups they are more varied; and yet in none of them does man achieve his objective value, his cosmic dignity, for that depends on his being indispensable to the manifestation of the total possibilities of being in a unified plurality. And only as the object of the diverse energies of all his infinite spiritual compeers does he attain to objectivity.

In none of the groups to which he belongs, the family, the vocation and the rest, are the conditions fulfilled on which this objectivity depends. He must still seek beyond the finite groups if he would obey the striving towards the infinite. The number of individuals with whom he is associated in the groups is small. The diversities represented by them are numerically and qualita-

tively few. In none of his actual social relations is man exposed to the impact, the onset, of the infinite host. In none of them is his absolute reaction called out. In none of them, therefore, are the persons with whom he is associated absolutely necessary to him or he to them, as the organic ideal prescribes reciprocal necessity. In moments of fervent love the lover may affirm that the existence of the beloved is necessary to his existence, that he cannot live without her, or, on the other hand, she without him. But this necessity gradually becomes enfeebled, turns into a habit, a transient good fellowship. It is but a gleam, a shimmer of the infinite spiritual necessity that for a moment shines through the earthly relationship.

It is chance that brings us into contact with one another. The dearest companion, chance has put him or her in our way. Had circumstances been otherwise, someone else might have occupied his place. The children that we are to rear, chance brings them to our bosom. Strains of heredity appear in them branching back along lines scarcely to be followed or traceable sometimes to characters repugnant to our own. Even in the most fortunate instances, in the case of those whose qualities we most admire, whom we most cherish, there are always subtle, secret, perhaps unavowed incompatibilities; there is never a perfect attunement between two human beings, let alone between more than two.

There remains, therefore, the practical task of organizing these natural relationships, of dealing with those who are associated with us by chance as if they were to be made necessary to us.

In the happy relationships, in marriage, for instance, the thought of a tie of necessity to be thus created will give a touch of spiritual beauty, of exquisite fineness in intercourse such as the empirical motives, the desire just for companionship, comfort, or mutual æsthetic enjoyment, cannot furnish. We shall enjoy the excellence in the other, but divine an excellence beyond that already manifest, and go in quest of that which lies beyond.

While where the relations are unhappy, wretched, miserable, where there is hardness on one side, frivolity on the other, spiritual deadness, then in these worst cases, and they exist not only in marriage but in industry, in politics, in the international sphere; where we look out upon a world groping in darkness, confused,

ethically in its infancy,—just in these worst cases the spiritual nature, for those who feel its prompting, is challenged to assert itself to the uttermost, and it will find relief in vision.

Vision is to be distinguished from dream. The dream, say the psychoanalysts, has a meaning. It signalizes suppressed instincts, passions, appetites, which we have derived from our animal ancestry, which are to be sublimated, while the vision is orientated from the outset toward the sublime which is to be installed in human experience. The vision is the creation of the spiritual part and assures the existence of that which creates it. It gives to the beholder a two-fold uplift—the uplift that comes from seeing perfection as congenial to man's essential being, and the other uplift which is due to a reaction of the vision upon the beholder, a reaction of such a kind that he will endeavor to transform himself, to become such a one that his fellows of the group, if spiritually changed, would welcome him as their spiritual companion, as a true spiritual correlative.

Thus both the successes and the failures and frustrations we meet with in the endeavor to organize the finite groups, are experiences that lead us beyond this finite human society to the seeing in mind the infinite society, the multiple godhead.

Factusne operæ pretium sim non satis scio.

These words which Livy sets at the beginning of his work I place at the end. "I do not know whether the result will be thought to repay the labor bestowed." Livy goes on to say that in the labor itself he sees a reward, inasmuch as it averts his gaze from the evils of the times in which he lives (the time of the Civil Wars) and turns his face back to the brave days of old, and the noble human types that then existed. Unlike Livy we of to-day look for encouragement, not backward to the past, but forward to the progress of the human race. Not indeed as if perfection were somehow to be attained in the distant future at the end of the journey. The world of perfection exists now, forever exists, a world of changeless change, bathed in the radiance of perpetual accomplishment,—a world the flux and reflux of whose spiritual tides constitute the systole and diastole of eternal life. The infinite ideal does not need to be realized,—it *is* real. The

progress of mankind consists in ever more and more realizing the reality of it.

Thus ethical experience opens out into a religion, and the probing of what is distinctive in ethical experience permits a metaphysical construction, alternative to those that now prevail, and offers, I submit, a new approach to the problem of ultimate reality.

FELIX ADLER.

COLUMBIA UNIVERSITY.

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PROCEEDINGS, 1928

PROCEEDINGS OF THE AMERICAN PHILOSOPHICAL ASSOCIATION, 1928

SECOND ANNUAL REPORT OF THE BOARD OF OFFICERS

TO THE MEMBERS:

THE ORGANIZING COMMITTEE OF THE SIXTH INTERNATIONAL CONGRESS REPORTS AS FOLLOWS:

1. As reported to the Association in December 1927, there remained on November 17, 1927 a balance of \$1,270.87 in the hands of the Treasurer, Professor John J. Coss, Columbia University. Since that date, \$687.52 have been received as profit from the sale of the Proceedings of the Congress. The total now on hand is therefore \$1,958.39.

2. This sum will be increased by interest accruing at the savings bank, and, possibly, by further receipts from the publishers of the Proceedings. This last item, however, can not be reckoned on in advance.

3. The Committee recommends that this surplus from the Sixth International Congress be used to promote the representation of the Association at the Seventh Congress, to be held at Oxford, England, in 1930.

A. C. ARMSTRONG, *Honorary Secretary.*

THE REVOLVING FUND FOR PUBLICATION:

By vote of the Board of Officers, the secretary was instructed to deposit the fund received from the Carnegie Corporation in a savings bank where it would yield some interest while being used. It is deposited in the First National Bank of Eugene, Oregon, where it bears 3 per cent. on the unpaid balance semi-annually. The financial statement appears below.

Under the date of February 2, 1928, J. McKeen Cattell withdrew from the Publication Committee and no one has been appointed in his stead.

The general editor of the Source Books in the History of the Sciences submits the following report:

This project has progressed satisfactorily during the past year. Early in the spring, the McGraw-Hill Book Company of New York

City showed interest in the venture, and by mid-summer signed the contract for the entire series. The terms, too, are such that the fund obtained from the Carnegie Corporation is left free for the preparation of manuscripts.

Two chairmen of committees, Professors Chamberlin and Ames, because of the pressure of other duties, have resigned their positions, but both have retained their connection with the enterprise by becoming members of reviewing committees for their respective fields. Steps are being taken to fill these two important positions.

Professor Henry Crew of Northwestern University has been secured to act on a reviewing committee for the volume on physics, and Professor William M. Wheeler, dean of the Bussey Institute, Boston, Massachusetts, has consented to survey the field of biology to determine the number of volumes necessary to cover that subject. Such assistance will aid the project very materially.

During the year, the project has been indorsed by the American Association for the Advancement of Science and the History of Science Society; and also by the American Anthropological Association, the Mathematical Association of America, and the American Astronomical Society within the limits of their respective fields.

The first volume, *A Source Book in Astronomy*, by Professor Harlow Shapley has just come from the press, and the second volume, *A Source Book in Mathematics*, under the immediate supervision of Professor David Eugene Smith, is under way and will probably be ready for the press early this coming year.

Since the McGraw-Hill Book Company is desirous of having three or four manuscripts a year, it is likely that the entire series will be ready for distribution much earlier than was at first anticipated. The eager activity of the several committees, commensurate with sound scholarship, will accomplish this result.

GREGORY D. WALCOTT, *General Editor*.

CARUS LECTURES:

The Committee on the Carus Lectures reports that the three members of the committee who were to be appointed by Mrs. Carus are E. L. Schaub (Chairman), H. B. Alexander, and Mrs. Mary Hegeler Carus. Professor George H. Mead has been chosen by the committee to deliver the third series of lectures. The time and place has been left to a committee consisting of the lecturer, a representative of the Department of Philosophy at the University of California, and H. B. Alexander.

AMERICAN COUNCIL OF LEARNED SOCIETIES:

The Fourth Conference of the Secretaries of the Constituent Societies was held in January 1928, in Washington, D. C. The Association was represented by Brand Blanshard, Secretary-Treasurer of the Eastern Division. Bulletin No. 9 published by the Council gives a report of its activities from its organization until December 1928. Among many items of interest to the members of our Association are (1) the report of progress in the publication of the Dictionary of American Biography, (2) the appointment by the Council of Professor William A. Heidel as a Research Associate with full financial provision for the completion of his studies in the History of Greek Scientific and Philosophical Thought to 400 B.C., (3) the establishment of small grants in aid of research. Of the third item the announcement is printed in full.

The American Council of Learned Societies announces that it is able to offer, in each of the three years 1929-1931, a limited number of small grants to individual scholars to assist them in carrying on definite projects of research in the humanistic sciences (philosophy, philology and literature, linguistics, art and archæology, and history).

The grants are designed to facilitate and encourage research by mature scholars who are engaged in constructive projects of research, and who are in actual need of such aid and unable to obtain it from other sources. The grants are available for specific purposes, such as travel, personal and secretarial assistance, the preparation or purchase of equipment, material, etc.

The grants are restricted to scholars who are citizens of the United States or who are permanently domiciled or employed therein. They will not be awarded for the purpose of aiding in the fulfillment of the requirements for any academic degree, and as a rule, preference in their award will be given to scholars who lack access to other funds maintained for similar purposes.

The maximum amount of these grants is \$300. Applications for grants to be awarded in 1929 must be made not later than January 31. Information respecting mode of application, etc., will be furnished upon request to Waldo G. Leland, Permanent Secretary of the American Council of Learned Societies, 907 Fifteenth Street, Washington, D. C.

BERKELEY ANNIVERSARY:

Professor C. M. Bakewell reported for the committee appointed to coöperate with the Berkeley Divinity School in arranging a com-

memoration of the 200th anniversary of the arrival in this country of Bishop Berkeley. Professor Bakewell was chosen to represent the Association at the commemoration exercises.

OFFICERS FOR 1929:

The Board of Officers for 1929 is as follows: Morris R. Cohen, *Chairman*, D. H. Parker, H. B. Alexander, Brand Blanshard, T. V. Smith, H. D. Roelofs, and H. G. Townsend, *Secretary*.

BOARD OF OFFICERS: H. WILDON CARR, *Chairman*,
FELIX ADLER,
D. H. PARKER,
R. M. BLAKE,
T. V. SMITH,
H. G. TOWNSEND, *Secretary*.

FINANCIAL STATEMENT.

January 8, 1929.

Board of Officers,
American Philosophical Association,
Mr. H. G. Townsend, *Secretary*,
Eugene, Oregon.

Gentlemen:

In accordance with instructions received we have examined the cash records of the American Philosophical Association at Eugene, Oregon, for the year ended December 31, 1928, and submit herewith statements of cash receipts and disbursements of the General Treasury and of the Revolving Fund for Publication.

We have verified the balances of cash on hand by certificates obtained from the respective depositories, have examined all of the checks returned, and have inspected receipted invoices produced in support of all disbursements. Cash receipts are in agreement with remittance advices in the files of your secretary.

I CERTIFY THAT, in my opinion, the accompanying statements of cash receipts and disbursements of the General Treasury and the Revolving Fund for Publication of the American Philosophical Association have been correctly prepared to reflect the cash position of the Association at December 31, 1928.

Yours very truly,
SPENCER R. COLLINS,
Certified Public Accountant.

AMERICAN PHILOSOPHICAL ASSOCIATION.

Cash Statement, General Treasury, for Year Ended December 31, 1928.

Balance—January 1, 1928 \$ 104.50

Receipts:

Dues in American Council of Learned Societies—

Eastern Division	\$ 15.45	
Western Division	7.18	
Pacific Division	2.37	\$ 25.00

For General Treasury—

Eastern Division	75.25	
Western Division	36.50	
Pacific Division	12.50	124.25

For Printing the Annual Report—

Eastern Division	78.26	
Western Division	16.61	
Pacific Division	13.00	107.87

One half of delegate's expenses from American Council of Learned Societies

20.00 277.12

Disbursements:

\$ 381.62

Dues in American Council of Learned Societies

\$ 25.00

Stationery, Postage, Clerical Labor

17.22

Expenses of delegate to American Council of Learned Societies (William A. Hammond)

40.00

Printing the Annual Report

126.71

208.93

Balance, December 31, 1928

(United States National Bank—Eugene, Oregon) \$ 172.69

*Cash Statement, Revolving Fund for Publication, for Year Ended
December 31, 1928.*

Receipts:

Carnegie Corporation of New York \$10,000.00

Interest—March 5 to June 30, 1928 87.75

Interest—July 1 to December 31, 1928 (Credited by

Bank as of January 1, 1929) 126.93 \$10,214.68

Disbursements:

Gregory D. Walcott 125.00

Harlow Shapley 700.00

Harlow Shapley 800.00 1,625.00

Balance, December 31, 1928 (Savings Department,
First National Bank, Eugene, Oregon)

\$ 8,589.68

WESTERN DIVISION

President: D. H. PARKER.

Vice-President: J. D. STOOPS.

Secretary-Treasurer: T. V. SMITH.

Executive Committee: The foregoing officers *ex-officio*, together with
A. P. BROGAN, G. P. CONGER, B. A. G. FULLER, and W. S. GAM-
MERTSFELDER.

The twenty-ninth annual meeting of the Western Division of the American Philosophical Association was held at Chicago, in connection with the meeting of the American Philosophical Association for the Second Series of the Carus Lectures, December 27-30, 1927. The Western Division was represented on the general program of the national association as follows:

Objective Certainty and Human Faith (Presidential Address)

DAVID SWENSON

An Hypothesis of Realms.....G. P. CONGER
Current Epistemology and Contemporary Ethics...D. LUTHER EVANS
Hedonism and Comparative Values.....A. P. BROGAN
The Regulative Idea of a Cosmos.....W. CURTIS SWABEY
The Search for Certainty.....LAWSON P. CHAMBERS
Theses Concerning the Foundations of Logic.....MARVIN FARBER
Art and LifeVAN METER AMES
What Has Beauty to do with Art?.....C. J. DUCASSE
Sense Qualities and Material Things.....STERLING P. LAMPRECHT

At the business meeting, a vote of thanks was tendered Professor D. T. Howard, Northwestern University, for his efficient work as temporary secretary-treasurer of the Western Division in organizing the joint meetings of the three divisions during the absence of the secretary-treasurer in Europe. It was decided that the next meeting would be held at Easter, 1929, the exact dates and place to be determined by the Executive Committee, note being taken of invitations from Ohio State University and the University of Cincinnati. It was recommended also that hereafter all material necessary for making up the program of the Western Division be in the hands of the Secretary at least six weeks before the date of the annual meeting and that the printed programs be mailed by him to members at least two weeks before the date of the meeting.

The following officers were elected: President, D. H. Parker; Vice-President, J. D. Stoops; Secretary-Treasurer, T. V. Smith; Members

of the Executive Committee, A. P. Brogan, G. P. Conger, B. A. G. Fuller, and W. S. Gammertsfelder.

The following new members were elected: A. E. Brown, Frank Diehl, Vergilius Ferm, D. W. Gotshalk, Carrol D. Hildebrand, W. M. Horton, J. A. Melrose, W. A. Shimer, R. A. Tsanoff, Ethel K. Yeaton.

T. V. SMITH, *Secretary-Treasurer*.

PACIFIC DIVISION

President: H. B. ALEXANDER.

Vice-President: D. W. PRALL.

Secretary-Treasurer: H. D. ROELOFS.

Executive Committee: The foregoing officers *ex-officio*, together with D. S. MACKAY (1930), R. M. BLAKE (1930), H. G. TOWNSEND (1929), H. WILDON CARR *ex-officio* for one year.

The fifth annual meeting of the Pacific Division was held at Stanford University November 30 and December 1, 1928. The following program was presented:

Logic in Rhythmitonal Creative Processes.....	H. P. EAMES
The Disintegration of Integrals.....	H. LANZ
The Persistent Motive for Social Organization.....	H. G. TOWNSEND
A Symposium on Determinism and Indeterminism:	
In Classical Physics.....	V. F. LENZEN
In Quantum Physics.....	W. H. WILLIAMS
The Presidential Address: Real and Ideal Relations..	H. WILDON CARR
Cosmology in Plato's Thought.....	J. E. BOODIN
The Naturalism of Hume.....	H. MILLER
Problems of a Philosophy of Culture.....	J. A. LEIGHTON

At the business meeting December 1, the minutes of the last meeting were approved.

TREASURER'S REPORT.

Receipts.

Balance on hand November 25, 1927	\$101.58
Membership dues	70.00
Total	\$171.58

Expenditures.

Postage and stationery	\$ 5.20
Secretarial work	2.00
Mimeographing of announcements for 1927 and 1928 meetings .	3.53
Printing of announcements and programs for 1927 meeting ...	8.00

Pacific Division share in expenses of Joint Meeting of the American Philosophical Association	33.84
Pacific Division share in expenses of printing Proceedings of the American Philosophical Association	13.00
Pacific Division dues to American Philosophical Association ..	12.50
Pacific Division share in membership of the American Philosophical Association in the American Council of Learned Societies	2.37
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Total	\$80.44
Balance on hand November 30, 1928	\$ 91.14

The Executive Committee reported that it had accepted the invitation of Mills College to hold the annual meeting there in 1929. It was moved, seconded and carried that this action be referred back to the Committee for reconsideration.

On recommendation of the Committee it was voted to hold the next annual meeting at the time of the Christmas holidays.

The following were elected to membership: H. P. Eames, Francis Raymond Iredel, Elmo A. Robinson; and to associate membership, Dr. William Maxwell.

The following officers were elected: President, H. B. Alexander; Vice-President, D. W. Prall; Secretary-Treasurer, H. D. Roelofs; Executive Committee, D. S. Mackay, R. M. Blake.

The Executive Committee recommended that steps be taken for the publication in the annual volume of Proceedings and Addresses of selected papers presented at the divisional meetings. Action was deferred until the next regular meeting.

A rising vote of appreciation and thanks was recorded for the hospitality of Stanford University and its department of philosophy.

H. D. ROELOFS, *Acting Secretary-Treasurer.*

EASTERN DIVISION

President: MORRIS R. COHEN.

Vice-President: E. G. SPAULDING.

Secretary-Treasurer: BRAND BLANSHARD.

pro tem. CHARLES W. HENDEL.

Executive Committee: The foregoing officers *ex-officio* together with H. R. SMART (1929), R. C. LODGE (1930), GRACE A. DELAGUNA (1930), W. K. WRIGHT (1931), C. A. BENNETT (1931), FELIX ADLER, *ex-officio* for one year.

Nominating Committee: CHARLES M. BAKEWELL, *Chairman*, F. J. E. WOODBRIDGE, FRANK THILLY.

The twenty-eighth annual meeting of the Division was held in Philadelphia, December 27-29, 1928. The following program was presented:

On a Definition of Consciousness.....EDGAR A. SINGER, JR.
 Social Meaning and the Concept of Society.....CLIFFORD L. BARRETT
 Toward a Metaphysic of Literary Criticism.PHILIP E. WHEELWRIGHT
 The Creative Imagination.....MORRIS R. COHEN
 Symposium: In what sense and to what extent does religious experience afford knowledge?—JAMES BISSETT PRATT, JAMES H. LEUBA,
 EDGAR S. BRIGHTMAN, W. P. MONTAGUE
 Alternative Systems of Logic.....PAUL WEISS
 Is Mathematics a Deductive Science?.....HAROLD R. SMART
 The Next Step in the Epistemological Dialectic

DOUGLAS C. MACINTOSH

A Re-examination of Critical Realism.....ROY WOOD SELLARS
 Presidential Address, The Ethical Problem.....FELIX ADLER
 Discussion: Are there any necessary truths?

E. G. SPAULDING, WILMON H. SHELDON

The business meeting was called to order at 9:45 A.M., on December 29th by President Adler. The minutes of the 27th annual meeting were approved as printed.

Treasurer's Report. The treasurer's report as audited and approved by the auditing committee, was read and accepted. The statement follows:

Receipts.

Balance brought forward	\$1,059.33
Membership dues	548.10
Gift, C. A. Strong	100.00
Total	\$1,707.43

Expenditures.

Expenses, Chicago meeting	\$ 178.84
Clerical Assistance	12.57
Printing of Annual Volume	78.26
Printing Announcements, Stationery, Postage	83.03
Dues of Division to American Phil. Association	75.25
Dues of Division to A. C. L. S.	15.45
Refund of Dues	1.00
Total	\$ 444.40
Balance on hand	\$1,263.03
Audited by { E. B. CROOKS { MAURICE PICARD	

Committee on Contemporary American Philosophy. For the Committee on Contemporary American Philosophy, Professor W. P. Montague reported that, with a few exceptions, the contributors to the two volumes of essays proposed by the Committee had all submitted their manuscripts; that arrangements had been made for publication of the volumes by Messrs. Macmillan in the Library of Philosophy series; and that their appearance was anticipated at an early date.

Harry Norman Gardiner. It was unanimously voted that the following minute in memory of Professor H. N. Gardiner be spread upon the records of the Association:

In the death of Professor Harry Norman Gardiner on December 29, 1927, the American Philosophical Association lost not only a loyal and devoted member but also one whose life had been built into its very structure.

Professor Gardiner was one of the original founders of the American Philosophical Association. He was elected its first secretary and treasurer, and served for a number of years in this capacity. His keen interest in its welfare, his discriminating judgment, and his skill in the organization of meetings played an important part in determining its character and usefulness. He rarely missed a meeting, and never failed to take an active part in the discussions. It was always a source of joy to hear him speak. His beautifully modulated voice, his perfect diction, his never failing urbanity, yet the clearness and sureness with which he would cut through to the root of the matter, set a high standard of excellence and saved many a discussion from being lost in futility and irrelevancy.

At the meeting held at Smith College in December, 1925, the Association celebrated its twenty-fifth anniversary, and Professor Gardiner read a paper on its history, notable for the interest of the record and for the skill with which it was presented.

Professor Gardiner was president of the Association in 1907, and his presidential address on "The Problem of Truth" was an unusually keen analysis of the problem, stated in terms partly suggested by the work of Meinong.

His most significant contribution to historical criticism consists of two articles published in 1918 and 1919 on the psychology of the feelings and the emotions in ancient philosophy, which constitute one of the most important contributions made to the interpretation of this phase of ancient thought. He had, also, through years of study, made himself an authority on Jonathan Edwards, whom he placed in the front rank of American philosophers.

It is difficult to appraise his influence upon philosophy in America. Certain it is that it is not to be measured by the relatively meagre amount of his published work, nor was it wholly or mainly due to his writings. He lived in the lives of his students and of his friends and associates, and in the causes to which he gave devoted service.

After all, philosophy's task, as he viewed it, was not primarily to add to truth—that is the work of science—but rather to provide a discipline that enables one to enter into the spirit of civilization as this has found expression in the great cultural achievements of man, in literature, in art and in religion,

and in the story of philosophy itself. In short, for him, as for his teacher Plato, philosophy was not so much a theory of reality as a way of life, its study a conversion, a turning of the soul toward the light.

Of philosophy as thus conceived Professor Gardiner's own life was an impressive illustration.

Nominating Committee. The committee reported the following nominations for office in the Division for the year 1929:

For President, Morris R. Cohen.

For Vice-President, Edward G. Spaulding.

For new members of the Executive Committee, W. K. Wright, C. A. Bennett.

The Secretary was instructed to cast a unanimous ballot for the nominees presented.

Life Member. Under the head of new business, it was moved and carried that, in recognition of the gift to the Association of one hundred dollars by Professor C. A. Strong, he be elected to life membership in the Association, such membership to be indicated by the entry, 'life member,' after his name in the roll of active members.

Committee on Sixth International Congress. Upon presentation by the Secretary of the report made by the Organizing Committee of the Sixth International Congress of Philosophy to the Board of Officers of the Association, a report which showed a balance of \$1,958.39 now in the hands of the committee, it was voted that the following recommendations should be made to the Board of Officers: That a committee should be appointed to represent the Association in administering this fund in the interest of the Seventh International Congress; and that, in view of the great value of their services to the last Congress, Professors J. J. Coss and A. C. Armstrong should be among the members of this committee.

Publicity. The action of the Executive Committee in temporarily making use of the services of the Publicity Bureau established by the American Council of Learned Societies and allotting the sum of \$50 annually to this Bureau in return for services rendered, was presented to the meeting and approved.

Abstracts of Papers. It was moved and carried that in preparing for the next meeting the secretary should, so far as practicable, secure abstracts of the papers to be presented and have these in mimeographed form for the convenience of members at the beginning of the meeting.

New Members. On recommendation of the Executive Committee, the following persons were elected to active membership in the Divi-

sion: Adam Alles, Boris B. Bogoslovsky, F. G. Boughton, Paul S. Christ, Francis P. Clarke, John R. Cresswell, Stephen A. Emery, F. P. Hoskyn, Gail Kennedy, Ronald B. Levinson, Leicester C. Lewis, Frank Lorimer, S. Kerby-Miller, Anna F. Liddell, Arthur E. Murphy, Frederick L. Pfeiffer, Joseph Ratner, Richard Robinson, J. K. Shryock, Philip Stanley, Paul Weiss, Mary Williamson.

Secretary Pro Tem. On recommendation of the Executive Committee, Professor Charles W. Hendel was elected Secretary *pro tem.* of the Division, to take the place of the present secretary during a year's leave of absence abroad.

Vote of Appreciation. It was moved, and carried by rising vote, "that the Association expresses its gratitude for the generous hospitality of the University of Pennsylvania, and its appreciation of the kindness and courtesy of the University staff."

BRAND BLANSHARD, *Secretary-Treasurer.*

LIST OF MEMBERS.

Members should notify the secretary of their division promptly of any changes to be made in the list of names and addresses.

Adams, Professor George, P., University of California, Berkeley, Calif.

Adler, Professor Felix, Columbia University, New York City.

Aikins, Professor H. A., Western Reserve University, Cleveland, Ohio.

Alexander, Professor H. B., Scripps College, Claremont, Calif.

Alles, Professor Adam, St. John's College, Annapolis, Md.

Ames, Professor E. S., University of Chicago, Chicago, Ill.

Ames, Professor Van Meter, University of Cincinnati, Cincinnati, Ohio.

Anderson, Professor Frederick, Stanford University, Calif.

Anderson, Professor Fulton H., Univ. of Toronto, Toronto, Canada.

Angier, Dr. R. P., Yale University, New Haven, Conn.

Apple, President Henry H., Franklin and Marshall College, Lancaster, Pa.

Armstrong, Professor A. C., Wesleyan University, Middletown, Conn.

Avey, Professor Albert E., Ohio State University, Columbus, Ohio.

Baillie, Professor John, Toronto University, Toronto, Canada.

Bakewell, Professor C. M., Yale University, New Haven, Conn.

Baldwin, Dr. J. M., c/o Harris Forbes & Co., New York City.

Balz, Professor Albert, University of Virginia, Charlottesville, Va.

Barrett, Professor Clifford L., University of California, Los Angeles, Calif.

- Baylis, Mr. Charles A., Brown University, Providence, R. I.
van Becelaere, Rev. E. L., Dominican Fathers, Detroit, Michigan.
Benjamin, A. C., University of Illinois, Urbana, Ill.
Bennett, Professor C. A., Yale University, 1855 Yale Station, New Haven, Conn.
Bennion, Professor Milton, University of Utah, Salt Lake City, Utah.
Bernstein, Professor B.A., Univ. of California, Berkeley, Calif.
Birch, Professor T. Bruce, Wittenberg College, Springfield, Ohio.
Bixler, Professor Julius S., Smith College, Northampton, Mass.
Black, Dr. G. A., 156 Park Street, Gardner, Mass.
Blake, Professor R. M., University of Washington, Seattle, Wash.
Blanshard, Professor Brand, Swarthmore College, Swarthmore, Pa.
Blanshard, Mrs. Frances B., Swarthmore College, Swarthmore, Pa.
Blote, Dr. Hal C., Pacific Grove, Calif.
Boas, Professor George, Johns Hopkins University, Baltimore, Md.
Bode, Professor B. H., Ohio State University, Columbus, Ohio.
Bogoslovsky, Dr. Boris B., c/o Department of Philosophy, Columbia University, New York City.
Boodin, Professor J. E., University of California, Los Angeles, Calif.
Boughton, Professor Fred G., Denison University, Granville, Ohio.
Boynton, Professor Richard W., University of Buffalo, Buffalo, N. Y.
Bradshaw, Professor Marion J., Bangor Theological Seminary, Bangor, Me.
Brandt, Professor Francis B., 4337 Larchwood Ave., Philadelphia, Pa.
Brett, Professor G. S., Toronto University, Toronto, Canada.
Brightman, Professor Edgar S., Boston University, Boston, Mass.
Britan, Professor Halbert H., Bates College, Lewiston, Maine.
Brogan, Prof. A. P., University of Texas, Austin, Texas.
Brown, Dr. A. E., University of Minnesota, Minneapolis, Minn.
Brown, Professor George, Amherst College, Amherst, Mass.
Brown, Professor H. C., Stanford University, Calif.
Brown, Professor William A., Union Theological Seminary, New York City.
Bryan, President W. L., Indiana University, Bloomington, Ind.
Buchner, Professor E. F., Johns Hopkins University, Baltimore, Md.
Buermeyer, Dr. Lawrence, New York University, New York City.
Burt, Professor E. A., University of Chicago, Chicago, Ill.
Bush, Professor Wendell T., Columbia University, New York City.
Bussey, Professor Gertrude C., Goucher College, Baltimore, Md.
Butler, President N. M., Columbia University, New York City.
Butt, Professor S. McClellan, Pennsylvania State College, State College, Pa.

- Caldwell, Professor M. A., University of Louisville, Louisville, Kentucky.
- Calkins, Professor Mary W., 22 Bellevue Street, Newton, Mass.
- Campbell, Professor H. G., Morningside College, Sioux City, Iowa.
- Campbell, Professor Ivy G., Wells College, Aurora, N. Y.
- Carmichael, Professor R. D., University of Illinois, Urbana, Ill.
- Carr, Professor H. Wildon, University of Southern California, Los Angeles, Calif.
- Case, Professor Mary S., Wellesley College, Wellesley, Mass.
- Cattell, Dr. J. McKeen, Garrison on Hudson, N. Y.
- Chambers, Dr. Lawson P., Washington University, St. Louis, Mo.
- Chandler, Dr. Albert R., Ohio State University, Columbus, Ohio.
- Chanter, Professor William G., Wesleyan University, Middletown, Conn.
- Chao, Dr. Yuen Ren, Tsing Hua College, Peking, China.
- Chidsey, Professor Harold, 13 Brown Street, Providence, R. I.
- Christ, Dr. Paul S., Liberty High School, Bethlehem, Pa.
- Clark, Professor Mary E., Smith College, Northampton, Mass.
- Clarke, Dr. Francis P., Dept. of Philosophy, Univ. of Penn., Philadelphia, Pa.
- Cohen, Professor Joseph W., University of Colorado, Boulder, Colo.
- Cohen, Professor Morris R., College of the City of New York, New York City.
- Coleman, Professor H. T. J., University of British Columbia, Vancouver, B. C.
- Conger, Professor George P., University of Minnesota, Minneapolis, Minn.
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